The Orchadian

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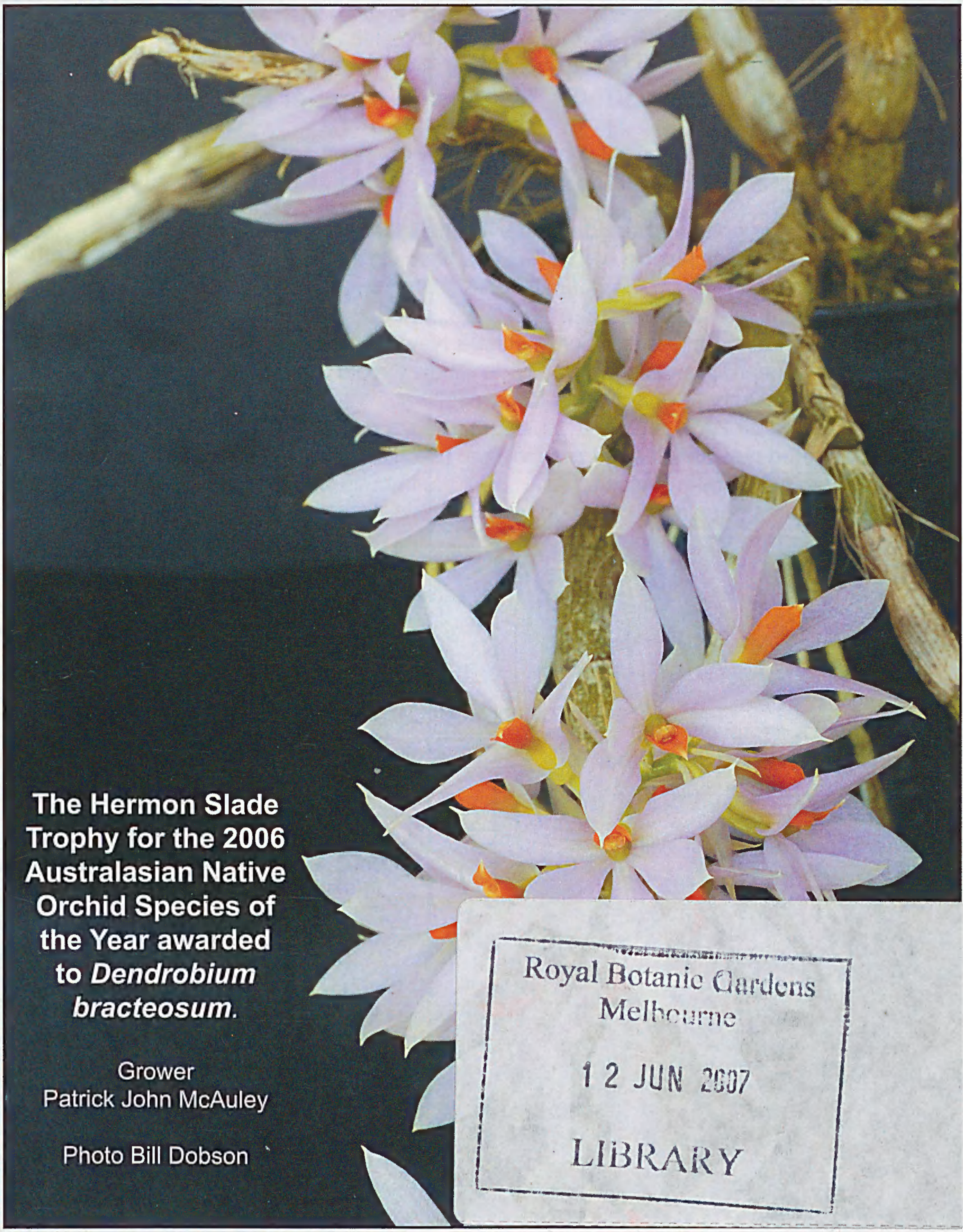
Official Journal of the Australasian Native Orchid Society



The Hermon Slade Trophy for the 2006 Australasian Native Orchid Species of the Year awarded to *Dendrobium bracteosum*.

Grower
Patrick John McAuley

Photo Bill Dobson

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The Orchadian
Official Journal of The Australasian Native Orchid Society Inc.
Founded August 1963
www.anos.org.au

Dedicated to the Study and Conservation of Australasian Native Orchids
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Annual General Meeting of the Australasian Native Orchid Society Inc.

The 44th Annual General Meeting of ANOS Inc. will be held at the Gosford RSL Club at 10.00am on Saturday 4th August, 2007.

Any Group or individual member who has matters to be included on the agenda, along with any nominations for positions on Council, should have these with the Secretary no latter than one week prior to the AGM.
Send these items to:
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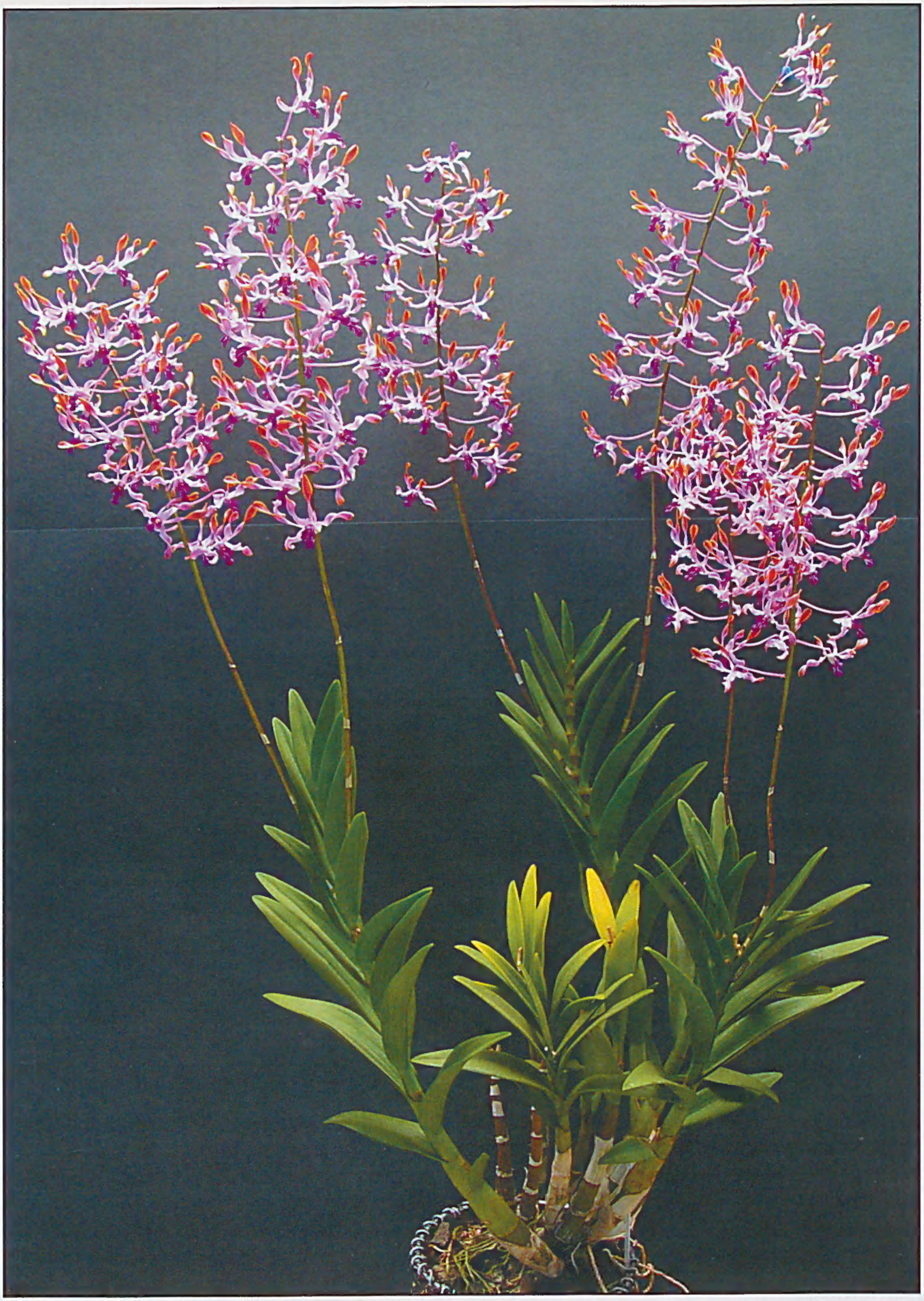
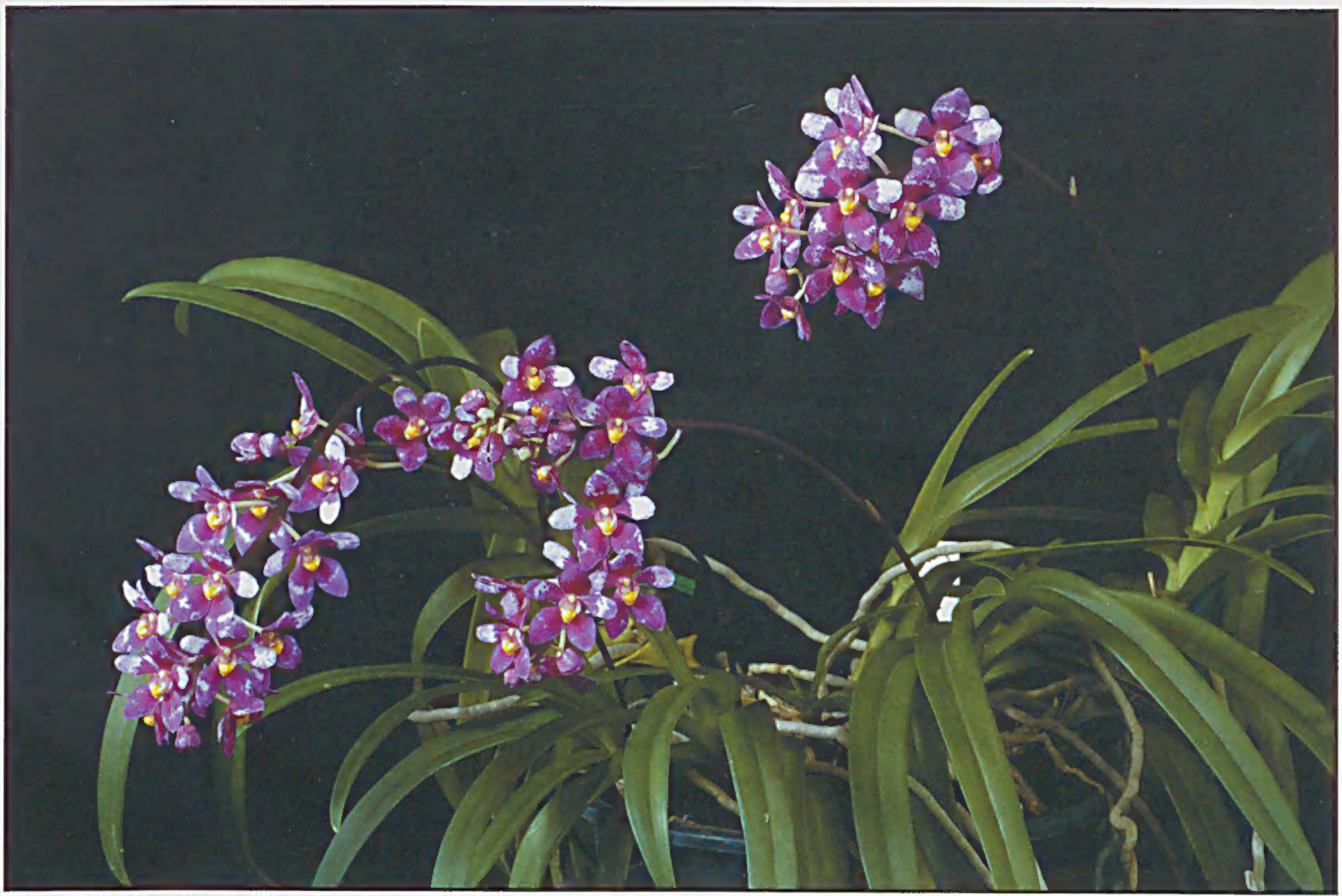
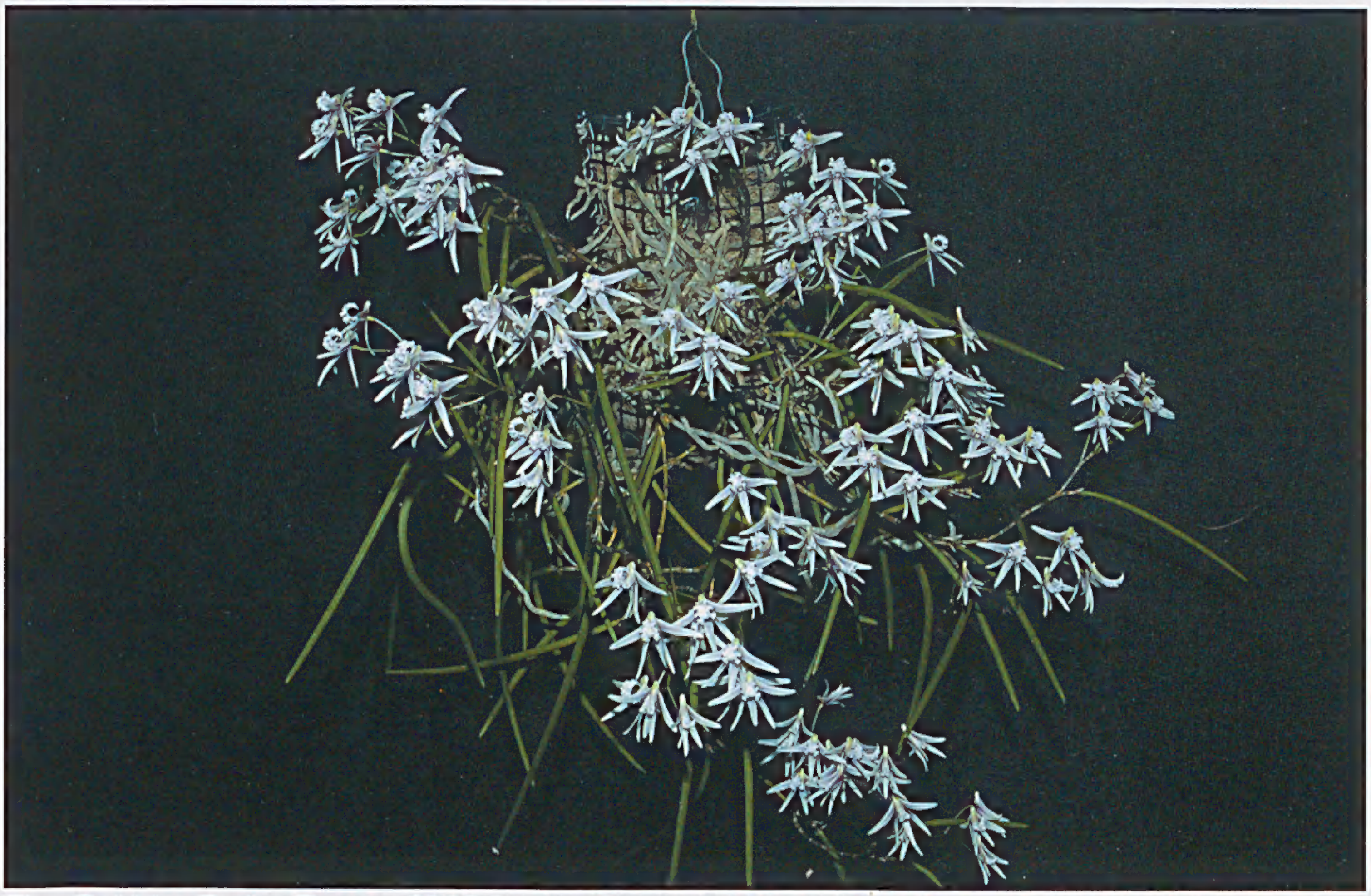


The Hermon Slade Trophy for the 2006 Australasian Native Orchid Hybrid of the Year awarded to *Dendrobium* Adrian Lonne 'Lyndal'. Grower Anthony Woodbine



The Bill Murdoch Trophy for Champion Australian Species of the Year awarded to *Sarcochilus fitzgeraldii* 'Magnificent'. Grower Phena and Brian Gerhard
Down Under Native Orchids



The Gold Ira Butler Trophy 2006 for the Champion Australian Native Orchid Hybrid of the Year awarded to *Dockrillia* Grey Ghost 'Tumbi'. Grower Phena and Brian Gerhard
Down Under Native Orchids

Photos Bill Dobson

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REGISTRATION
Early Bird Registration = A$70.00 expires on 31 Jan 08
Regular Registration = AU$90.00 from 1st Feb 08 until the 15th August 2008.
Late Registration = A$120.00 16th August 2008 until the Conference Registration Includes:
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For any queries or questions, please write to, the Secretary, PO Box 4076, Alexander Heights, WA 6064, or email waos@iinet.net.au
To be included on our emailing list, please contact Tony at waos@iinet.net.au

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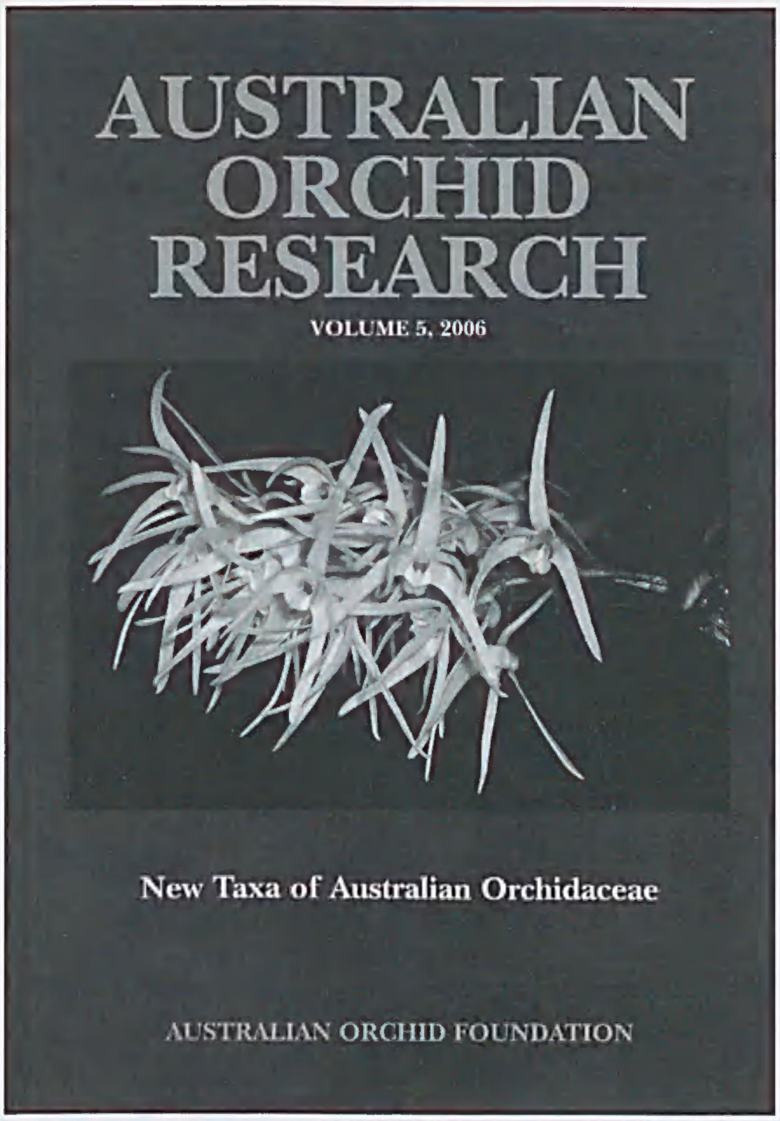
What is it? - A Conference and Showcase for all Western Australian Orchid Societies.
Where is it?
Belmont Oasis Leisure Centre, corner of Abernathy & Alexander Rd, Belmont, WA.
When is it?
25th and 29th September 2008. (Setup on the 25th, open to the public from 26th to 29th)
Web Site http://members.iinet.net.au/%7Eemntee/WAOS.html
Tony Watkinson Publicity AOS 2008.



AUSTRALIAN ORCHID RESEARCH

VOLUME 5, 2006

New Taxa of Australian Orchidaceae

AUSTRALIAN ORCHID FOUNDATION

AUSTRALIAN ORCHID RESEARCH
Volume 5. 2006

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by David L. Jones and Mark A. Clements
et al

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Ira Butler, Bill Murdoch and Hermon Slade Trophies for 2006.

I am pleased to announce the results of judging for the Ira Butler, Bill Murdoch and Hermon Slade Trophies for 2006. A large number of nominations were received which made the judging task difficult but the winners were all outstanding. During 2006 Murray Corrigan (the long serving chairman of the committee) and David Banks, Michael Harrison, Darryl Smedley and Jim Lycos resigned from the committee. I would like to take this opportunity to thank them on behalf of ANOS Inc and the OSNSW Inc for their efforts over the years in support of the Ira Butler Trophy Committee's objectives.

The **Gold Ira Butler Trophy 2006, for the Champion Australian Native Orchid Hybrid of the Year has been awarded to *Dockrillia* Grey Ghost 'Tumbi'**.
This magnificent orchid, owned by Phena and Brian Gerhard of Down Under Native Orchids, was bred by Down Under Native Orchids and nominated at the ANOS Warringah Group Spring Show. The plant featured many well open, greyish white flowers with light plum striations along the petals and sepals. All flowers were upright and well displayed.

The following five nominations receive **Silver Ira Butler Trophies**

Dendrobium Jesmond Gem 'Olive Adams', owned by Peter, Cheryl and David Adams
Dendrobium Tarean Creek 'Taliska', owned by Anita Evans
Dendrobium Rudkin 'Tynan', owned by John and Diane Sharam
Dendrobium Brinawa Sunset, owned by Henk van den Berg
Sarcochilus Judith 'Snowy', owned by David Butler

The following nominations receive **Ira Butler Certificates**

Sarcochilus Melba 'Surprise', owned by Ms J Pinner
Dendrobium Lochiel 'Robin', owned by B and B Khann
Dendrobium Australian Goldrush, owned by B and B Khann
Dendrobium Tie Dye 'Magic Moment', owned by Norm and Kay Mitchell
Dendrobium Buxton's Surprise 'Norma', owned by Keith Buxton
Dendrobium Aussie Victory 'Supernatural', owned by Phena and Brian Gerhard of DUNO
Dendrobium Victorian Bride 'Genesis' owned by Carl and Gaylene Armstrong
X*Taurodium furcillatum*, owned by Steve Howard
Dendrobium Avrils Gold, owned by Grahame Beaton
Dendrobium Golden Sunsprite 'Anne', owned by Greg Taylor
Dendrobium DUNO Charminite, owned by F and H Vernon
Dendrobium Awesome, owned by John Fleming
Dendrobium Light River, owned by F and H Vernon
Dendrobium Johulatum, owned by Keith Skaines
Dendrobium Graeme Banks 'Anna', owned by Anthony Armstrong
Dendrobium Miara, owned by Janet and Tony Baumer
Dendrobium Amber Banks 'June', owned by Brendan Killen
Rhynochilus Colonial Zeal 'Stars', owned by Phena and Brian Gerhard
Dendrobium Graham Hewitt 'Matilda', owned by Rob and Dot Lane
Dendrobium (Victorian Flare 'Solid Violet Lip' x Jesmond Sparkler 'Greg Hall'), owned by W and O Clavant.
Dendrobium X *delicatum* 'Cathie', owned by M P Osborne
Dendrobium Avril's Gold 'Keesha', owned by G and S Zerbe

The **Bill Murdoch Trophy for Champion Australian Species of the Year has been awarded to *Sarcochilus fitzgeraldii* 'Magnificent'**.
A beautiful plant owned by Phena and Brian Gerhard of Down Under Native Orchids, and nominated at the ANOS Sydney Group Sarcanthinae Show. The plant had six racemes with an average of seven well displayed flowers. Each flower had deep pink centre markings, with a lighter halo effect of fine spotting and a yellow labellum.

The following nominations receive **Bill Murdoch Gold Certificates**:

Dendrobium kingianum 'Dragon Ace', owned by Peter, Sheryl and David Adams
Dendrobium tetragonum 'Fiery', owned by Michael Zink
Dendrobium speciosum var. *curvicaule* 'Blake', owned by Ted and Winsome Walmsley
Corybas diemenicus, owned by Joyce Whan
Acianthus pusillus, owned by Nesbitt Orchids

The following nominations receive **Bill Murdoch Bronze Certificates**:

Dendrobium kingianum 'Lady in White', owned by Peter, Sheryl and David Adams
Dendrobium kingianum 'Wizz Fizz', owned by Peter, Sheryl and David Adams
Dendrobium kingianum 'Candygem 1', owned by Peter, Sheryl and David Adams
Dendrobium kingianum 'Highclere', owned by Ron and Pauline Coppin
Dendrobium speciosum var. *grandiflorum* 'Surprise' owned by Ms J Pinner
Dendrobium speciosum var. *speciosum* 'Windermere', owned by John Stubbs
Dendrobium melaleucaphyllum, owned by S Burton
Dendrobium speciosum 'Windermere' x 'Palmerston', owned by Tony Blewitt
Dendrobium speciosum 'Windermere' x 'Daylight Moon', owned by Ted and Winsome Walmsley
Dendrobium speciosum var. *curvicaule* 'Palmerston Mist Ted', owned by Ted and Winsome Walmsley
Dendrobium speciosum 'Windermere' x 'Misty Mountain', owned by Ted and Winsome Walmsley
Dendrobium falcorostrum, owned by Ray and Dorothy Andrews
Dendrobium speciosum var. *curvicaule* 'Bellingen', owned by Norm and Kay Mitchell
Dendrobium speciosum var. *curvicaule* 'The Goddess', owned by Peter and Sheryl Adams
Dendrobium speciosum 'National White', owned by Theo and Jenny Schutz
Dendrobium speciosum 'Barry', owned by B and B Khann
Dendrobium speciosum Windermere' x 'Misty Mountain', owned by Grahame Beaton
Dendrobium affine, owned by Fred Fear
Sarcochilus hartmannii 'Yellow Snow' x 'Early Yellow', owned by F and H Vernon
Dockrillia teretifolia, owned by F and H Vernon
Sarcochilus olivaceus, owned by John Douglas
Dendrobium speciosum 'Mt Larcom Gold' x 'Windermere', owned by Mr and Mrs B Arrah
Caladenia arenicola, owned by Michael Zink
Dockrillia striolata, owned by Henk van den Berg
Dendrobium speciosum (var. *speciosum* 'Windermere' *x* var. *curvicaule* 'Daylight Moon') 'Madeleine', owned by Mark Brown
Dendrobium speciosum var. *curvicaule* ('Daylight Moon' x 'Blew Moon') 'Kathryn', owned by Bill and Lorraine Dobson
Dendrobium speciosum var. *curvicaule* 'Palmerston', owned by Michael Drobski

Dendrobium speciosum var. *grandiflorum*, owned by Don and Bubs Wells
Dendrobium kingianum 'Bigfoot', owned by Brian Shaddock
Pterostylis baptistii 'Gosford', owned by M and L Guy
Dendrobium tetragonum 'Jess', owned by M Fish
Sarcochilus hartmannii 'Dopey', owned by Phena and Brian Gerhard
Sarcochilus hartmannii 'Red Brown' x 'Red Snow', owned by Norm and Kay Mitchell
Dockrillia wassellii, owned by Noel Oliver
Dendrobium bigibbum, owned by Steve Howard

The **Hermon Slade Trophy for the 2006 Australasian Native Orchid Hybrid of the Year has been awarded to *Dendrobium* Adrian Lonne 'Lyndal'**.
A spectacular orchid, owned by Anthony Woodbine, nominated at the ANOS Far North Coast Group Show, and bred by Lonne's Nursery in Cairns. The plant carried 123 fully open flowers on six long upright racemes. The flowers were outstanding for shape and colour, giving a stunning overall display.

The following nominations receive **Hermon Slade Certificates**:

Dockrillia fuliginosa x striolata, owned by Fred Fear
Dockrillia Oliver Jack 'Gerard', owned by Phena and Brian Gerhard of Down Under Native Orchids
Dendrobium CKAI 'Oka', owned by Lionel and Betty Frame
Dendrobium Ray Takunaga, owned by Ros Capell
Dendrobium Andree Millar 'Tumbi', owned by Phena and Brian Gerhard
Dockrillia striolata x convoluta x fuliginosa, owned by Neville Lee

The Hermon Slade Trophy for the 2006 Australasian Native Orchid Species of the Year has been awarded to *Dendrobium bracteosum*. A lovely orchid owned by Patrick John McAuley, nominated at the Manly Warringah Orchid Society Show. The flowers were of even size, on five inflorescences having between six and fourteen flowers. Flowers were an even pink with a bright orange labellum.

The following nominations receive **Hermon Slade Certificates**:

Dendrobium spectabile ' Ingham', owned by Allan L Hughes
Dendrobium macrophyllum var. *giganteum* 'Tari', owned by Phil Spence

Bill Olsen
Hon. Secretary I.B.T.C.
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From the coast to the highlands,
ANOS Illawarra heads to the hills.

Alan Stephenson
43 McKay St
Nowra NSW 2541

One of the many desirable features of living in this region is the immediate availability of a wide range of orchid habitats including beaches, rainforest, wetlands, heath land, rivers, lakes, estuaries, the usual eucalypts and a magnificent escarpment. I live in the Shoalhaven district but travel to Wollongong for meetings of the nearest ANOS Group. The Illawarra district has as wide a range of habitats as does the Shoalhaven but it supports a vastly greater population and this has led to a reduction of orchid habitat. However, with the development ethic of the Shoalhaven City Council I feel sure we will be in a similar position very soon.

As the land beyond the escarpment is home to several stunning cauline species and with the drought broken (at least for now), a trip was deemed necessary to determine the rate of recovery following a few dryer than dry seasons. The hope was to see *Diplodium coccinum*, *D. obtusum, D. truncatum* and possible *D. laxum* along with a few rosette *Pterostylis* species. A mixed group assembled at the foot of Macquarie Pass to begin the journey. Several ANOS Illawarra members made up the party with a few grandchildren and the editor of *The Orchadian*.

The first stop was an area almost at the top of the ascent, which provided a good omen for the rest of the day. The area came complete with open grassed sections, some rainforest thickets and a selection of rocky outcrops and on one of these rocky outcrops were several square metres of *Adelopetalum exiguum*. Although situated at a height beyond effective photographic range and not uncommon to the area, it was still a delight to encounter. Other species although closer to the parking area (and the ground) proved more difficult to see, however once the collective eyes found a focus, rosettes and leaves were regularly recorded. Three species were recorded in flower and these were *Pterostylis hispidula* with several individuals and one good colony, a scattering of *Diplodium obtusum* with many of this species already sporting seed capsules. The third flowering species was *Chiloglottis reflexa* in typical form, with numerous leaves and the usual flowering rate of one percent. Rosettes of the ever present *Pterostylis curta* were plentiful and also those of *Pterostylis hildae* and the expectation of seeing this species was a main feature of my attendance but it appears I will need to visit again in about one month.

The next stop proved to be short lived as it is considered part of the Kangaloon Aquifer Project and off limits to everyone. After parking the vehicles beside the road we ventured to the area known as the Tourist Road Swamp, which is home to a great variety of terrestrial species. No sooner had we begun to access the swamp than an employee of the Sydney Catchment Authority, working nearby at one of the many pumping stations, drove 500 metres to spoil our party. He reinforced the message on the regularly placed signs which are situated 50 metres from the road along the tree line, that this area was prohibited to all but authorised persons only and the fine for refusing to leave is $11,000. As we stepped over the yet to be buried pipeline it was obvious that water was already being pumped from the aquifer to the Sydney Water Catchment. It was also obvious many of the local population were against this project from the alternative signage along the road. However, with much muttering under our breath we decided the fine was excessive even if applied collectively and therefore slowly decamped the scene after finding just two already pollinated species, *Corunastylis apostasioides* and *C. fimbriatus*. The sad story about this project is that the water from the aquifer will supply Sydney with water for a paltry 1½ days but will further degrade an area already compromised by peat mining operations in the 1970's. The peat mining has already ruined the habitat of *Prasophyllum fuscum* which relied on the wet conditions on the periphery of the Wingecarribee Swamp. Mining operations drained water from the orchid habitat, leaving it high and dry with an estimated 24 plants remaining. This project will certainly prove to be the final solution for yet another of our terrestrial species which chose to grow in the wrong place, when political not environmental decisions are preferred.

Twenty minutes later we were at Mt. Gibraltar (The Gib) and immediately came upon *Diplodium coccinum*. This is a beautiful orchid by any standards and is well known in this area for its propensity to display itself in several colour forms. These vary from a striking red to green, brown and a shade reminiscent of Khaki. Also at this site was the plentiful but less spectacular, *Acianthus exsertus* in what could be considered a darker than normal form. This proved to be a first rate setting for lunch and as this was undertaken a single specimen of *D. coccinum* was five metres distant inside the stone barrier of the picnic area and I should mention it was not noted for some time, despite all those at the table walking past it on their way to partake of their lunch.

The top of The Gib proved to be more interesting than the lower section with more variety. *Diplodium obtusum* among the boulders was the first followed by my favourite of the day, *D. truncatum*, which was in abundance in loose groups, one of which supported over 20 plants. These "Little Dumpy" orchids are wonderful to see and photograph with their well displayed striping. This flowering was considered excellent, particularly with the memory of several prior poor seasons. *Acianthus exsertus* was again present and a small number of *Eriochilus cucullatus* in flower, plus leaves of *Diuris* and *Microtis* spp. Leaves of *D. laxum* were also seen and with the expectation of a good season, these will be in good numbers for 2008. The Grandchildren at last proved their worth as they managed to locate *D. longipetalum*, although discussion varied as to whether it was that species or *D. reflexum*.

From here a further drive of 10 minutes to Mt. Alexandra at nearby Mittagong. At this stage of the day, the two hour return trip following the Forty Foot Falls Track was not considered. An earlier start to the day or some more of that good Daylight Savings sunlight would have been appropriate; however a species list equal to the previous sites was a good result. Rosettes of *Pterostylis erecta* were seen at the start of this track. As we joined the main track around the mountain, leaves of *Cryptostylis leptochila* were evident and from their number next season will be a must. I like walking along tracks like this as the track is over one metre below the level of the bank and it has the advantage of seeing orchids at eye level. Species seen at this point were more plants of *P. hispidula*, an early bud of *P. nutans* and *Bunochilus longifolia* was also in bud. This area had been burned last season and vegetation was in the early stages of regrowth, so several walkers traversed the slope parallel to the track and managed to find *Pterostylis acuminata*, *Speculantha parviflora* and *Chiloglottis seminuda*. The plant of *S. parviflora* was unusual in that the ventral sepals were extended above the galea and curled forward in the manner of an apostrophe. Who knows it might eventually be determined to be a species separate to those so far listed?

As I had been to an area I had only briefly visited on one prior occasion the day was most enjoyable and more so now I had seen *D. truncatum in situ* for the first time. I have been to at least three areas from where it is known, without success but this was a significant moment to see such a good flowering for the first time and it is an excellent photographic subject. For those who did not go, tough luck and try hard to make the next walk as I am sure something different will turn up, just because you are there and remember, more eyes see more orchids.

-oOo-

A thought or two on *Dendrobium* X *kestevenii.*

Ted Gregory
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How time has flown. As I sit and pen this note I suddenly realise it must be the best part of forty years since I first set foot on Alum Mountain, and the stupid part about it was, that I was not there to look for orchids in the first place. I went with friends to the mountain to observe a pair of Peregrine Falcons nesting. After scrambling up through the scrub we finally made the top, being constantly dive-bombed by the cock and almost put my hand on the hen as I stopped for a breather. This was one moment in my life when I would have loved to have had a camera, there was the hen sitting on her nest on a tiny ledge surrounded by plants of *Dendrobium kingianum*, some were in flower as well. She was in no hurry to leave the nest either, but eventually hopped off and joined in the dive-bombing for a couple of minutes and then returned to her motherly duties.

When we were over this interval we decided to have a bit of a look at what the mountain had to offer in the way of orchids. There was quite a good flowering of *Dendrobium speciosum* at the time, one with nice buff coloured flowers, good upright racemes and a good labellum to go with it. We resisted temptation and left the plant alone in all its glory. But I must admit I went back on another trip and took a couple of canes off one side which I grew on for years and took it to Queensland when we moved in 1979. The plant was so much admired in the Sunshine State that some of my friends said, when we decided to move back to New South Wales, it was not fair to take the plant back to 'Mexico' so it is still growing happily somewhere up there.

There was a lot of *D. kingianum* in flower, but after what I was used to on the Gloucester Bucketts, I never gave them much thought. There were a couple of slender 'kingianum' type plants that I could not place, but I will say more on them later. Never saw any adult plants that could have been '*D. kestevenii*', but saw three seedlings that definitely were that hybrid. Pieces were taken off by other genuine orchid people who flowered them later and proved they were the real thing.

In my time on the mountain there was so much *D. speciosum* growing that it was hard to imagine it ever getting thieved out, but they tell me it is a different scenario now. There were also some beautiful plants of *D. speciosum* growing on plugs, down towards Bombah Point, but these were almost wiped out by a cruel bushfire that literally peeled whole clones off the rocks with the intensity of the heat. I myself saw dozens of clumps completely incinerated and dead at the foot of the rocks.

One of these rocks had a superb *D. speciosum* seedling on it that we had seen in flower before and admired but never touched. We thought we were smart enough to recognise this plant amongst the charred ruins, so picked it up out of the ashes and took it home. It took years to get it up to flowering size again and when we did finally flower it, we realised that we had definitely rescued the wrong plant.

A paragraph or two ago I mentioned walking over a few plants with slender growth habit and flowers similar to *D. kingianum*; but these had a lot of flowers. I took bits off a couple of these out of curiosity and have grown them ever since. We could never work out what they were until someone made a hybrid, *D.* Gillian Leaney, which is *D. Xdelicatum* X *D. kingianum* and bingo! I don't know if it is recorded as a natural hybrid, but there were a few there in the old days. At one stage we thought Ira Butler was going to register this as 'D. profusion' and in fact we called them 'profusion' for years. It was a great name as they sure flowered profusely! I broke mine up rather heavily last season which they didn't really enjoy and I can't blame them considering what they have just lived through.

These notes were supposedly on *D. kestevenii* so I had better get back on track. Most of us have known or heard of the findings and writings of the Reverend Rupp and Doctor Kesteven, who between them had done most of the recorded work on this rather famous orchid.

Time catches up with us all much quicker than we think, in fact the friends I write about here have long gone and most of their knowledge has gone with them. I would like to add to our orchid lore before it is lost in time.

The first I will write about is Wally Johnson, who was a lifelong friend. I met him not long after the 39-45 war and even then he had a beautifully grown and maintained native collection. I will always regard him as my primary mentor in the culture of our natives. He was very friendly with many of the early settlers of Bulahdelah and this counted for a lot if you wanted to set foot on the mountain. He was a friend of the Slater family, who were as far as I know responsible for getting the original plant to the Doctor and the Reverend. When I first met Wally he had been growing his plant for years. It was a beautiful buff colour with great flower size and shape and perfect raceme habit. When all the naming activity finally sorted itself out the plant became known as the 'buff kestevenii'. I still think it's the best of all the clones that came off Alum Mountain. Whether this was the first plant off the mountain or not does not matter a hoot, but it sure was among the very early. Over the years I have given a lot of this plant to people that were interested in the orchid lore of this country. I am afraid it did not turn out a very useful parent in hybridising. What a shame!

Another friend who had a lot to do with the mountain in the old days was Lindsay Hyem, who owned Mernot Hereford Stud, out the back of Gloucester on the Curricabark River. Lindsay was a world authority on Australian owls and spent a lot of time on Alum Mountain as it was home to a few very rare members of this genus. He was also a keen grower and collector of Australian plants among which was a beautiful 'kestevenii'. He'd collected it so long ago that he'd nearly forgotten it. Ever since I had anything to do with this plant we called it 'Mernot' to keep track of it. Its growth habit is a bit more robust than most 'kesteveniis' but otherwise identical. The flower is not that good for shape, but the colour is a deep cream or almost yellow. Lindsay was one of natures' gentlemen and mustered his own cattle till well into his eighties. How time flies, it seems only yesterday but he's been gone for years.

Being an historical freak regarding our orchids I have tracked down a few more Alum Mountain originals in rather sorry condition that I hope to flower in a year or two, then we will see if I have different clones or just more of the same. -oOo-

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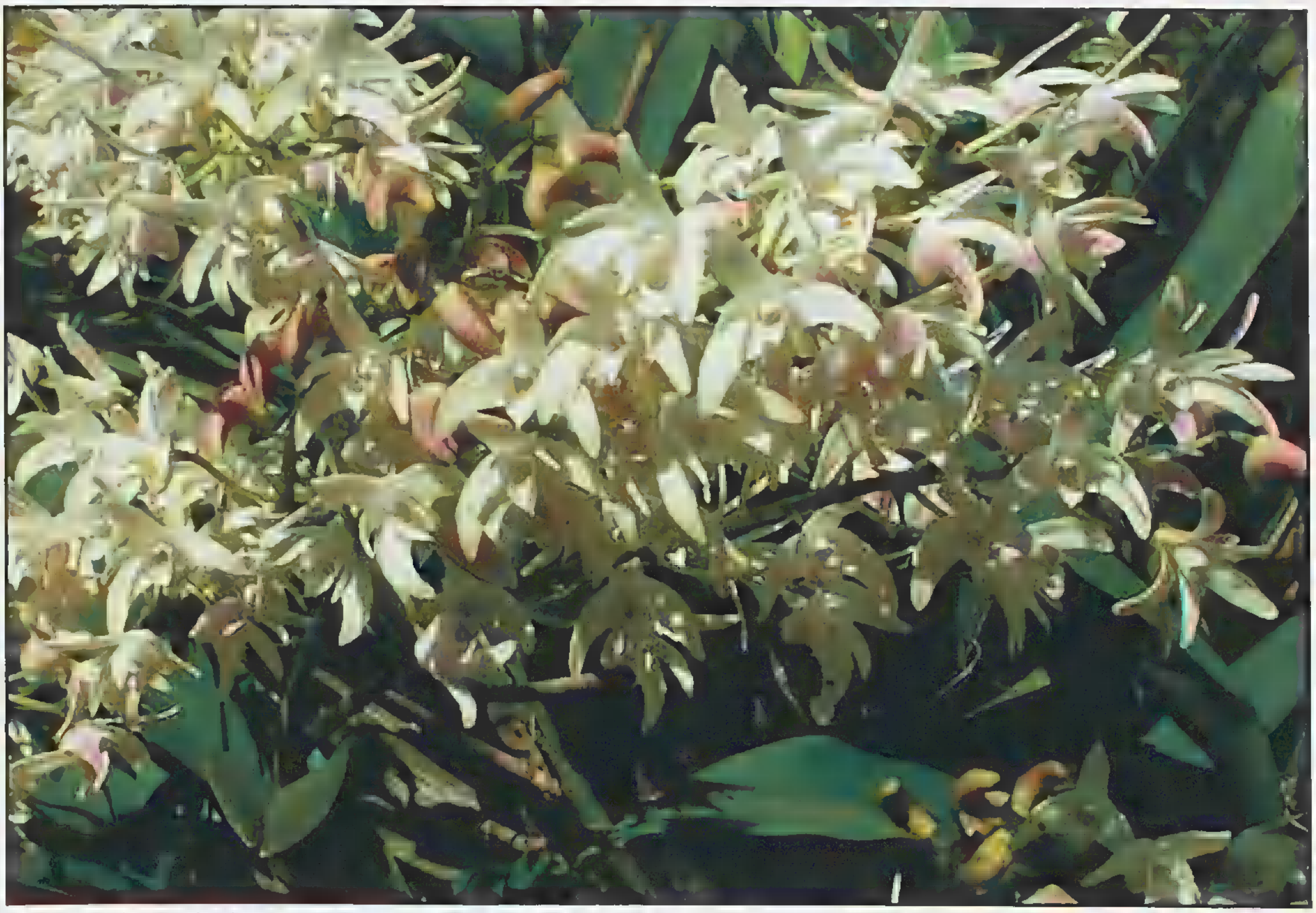
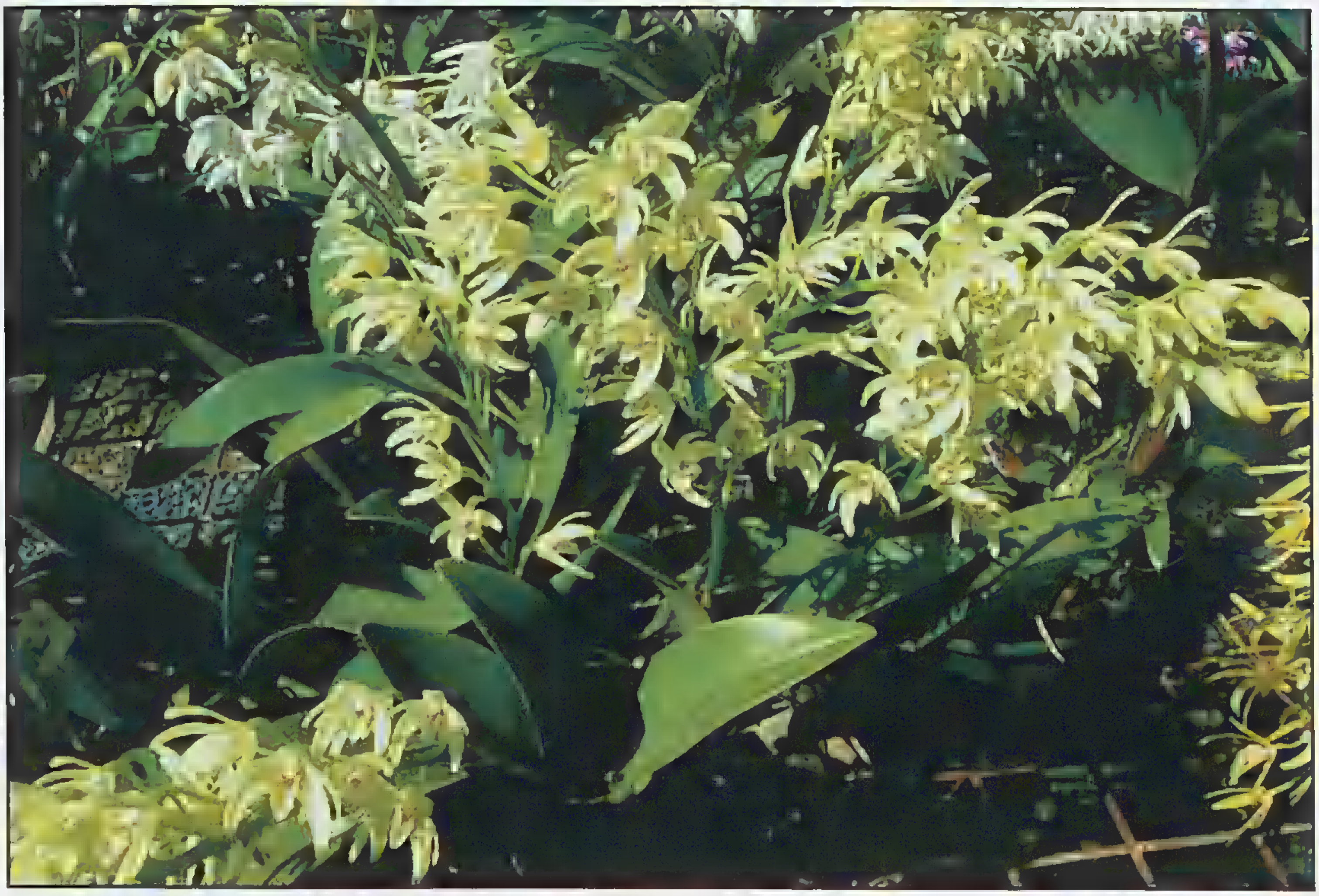


Dendrobium X *kestevenii* 'Buff'



Dendrobium X *kestevenii* 'Mernot'

Photos Tony Clarke

Measuring light levels.

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Orchids, like all plants need light to photo synthesise. Orchids grow in various habitats all over the world with differing light intensities. Whenever we read about the culture of our plants we see reference to light intensity, usually in the form of foot-candles, and sometimes as lux. Okay, so what are foot-candles or lux?

A foot-candle is "the luminance cast on a surface by a one-candela source one foot away." This name is officially frowned upon in scientific circles, because the dimensional formula for the unit is not foot-candela, but candela/sq ft. Lux, on the other hand, is best considered as a "metre-candle" (i.e. "the luminance cast on a surface by a one-candela source one meter away"). It follows logic that one lux is far less than one foot-candle. Luminance follows the inverse-square law, and as one foot = 0.3048 m, therefore one lux = 0.3048^2 foot-candle ≈ 1/10.764 foot-candle; or one foot-candle ≈ 10.764 lux.

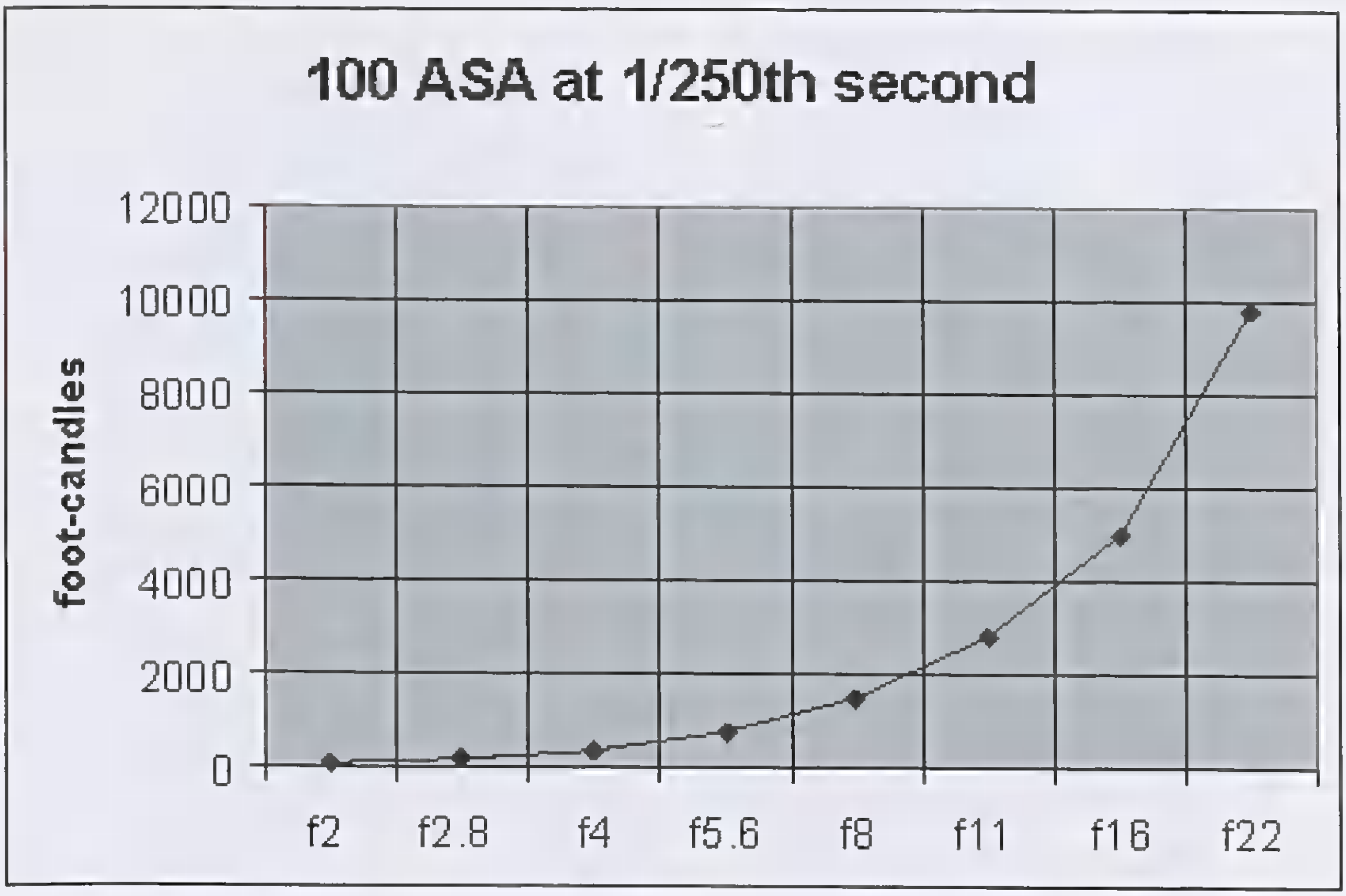
Let us not venture any further into the realms of technical jargon; after all we are but simple orchid growers, so let's stick with foot-candles for now. Full sun without too much pollution in the air can be measured somewhere around 10,000 foot candles, whereas a cloudy overcast day can be as low as 1000 foot-candles. Naturally these figures are variable depending on the time of year and latitude and serve as a very rough guide only, and as such I use them for illustration purposes only.

So what about us pedantic orchid enthusiasts? How do we find out what light our plants prefer, and whether we are giving them too much or too little?

Firstly, we must make certain assumptions. For instance, the good cultural notes give the average midday light for a particular orchid in it's naturally habitat. Some culture notes give "low", "medium" or "high" light requirements without reference to actual levels. In these cases, "low light" orchids generally need 1000 – 1500 foot-candles, "medium" 1500 – 3000 foot-candles, and "high" 3000 – 4500 foot-candles. Remember that maximum is a sunny midday.

We can measure the actual light intensity available for our plants at any particular time by using a relatively simple manual camera with a built in light meter. If you haven't got one, used manual 35 mm cameras are as cheap as chips thanks to the digital revolution. Alternatively a simple old fashioned photographic light meter will do. Some modern digital compact cameras may not have the flexibility or control to be able to give us the readings we are after. If your camera is one with various modes of automatic exposure camera, set it on MANUAL.

Set the ASA or film speed on the camera or light meter to 100 ASA, and set the shutter speed to 1/250th of a second. Focus on a piece of white copy paper (not gloss) where your orchid's leaves would be. Make sure you haven't cast a shadow on the paper. Now adjust the f-stop to align the needle or indicator for a correct exposure. Note the f stop reading and check the following table for a reading in foot-candles.



f2 = 100 foot candles
f2.8 = 200 foot-candles
f4 = 375 foot-candles
f5.6 = 750 foot-candles
f8 = 1500 foot-candles
f11 = 2800 foot-candles
f16 = 5000 foot-candles
f22 = 9800 foot- candles

We are probably only interested in readings between 1000 and 8000 foot-candles. Most orchid growing data gives a range of at least 1000 foot-candles for any particular species. As I mentioned earlier, the maximum figures within the range are probably for midday sunny conditions, without haze or pollution, and the lowest for heavy overcast conditions.

Due to so many variables, these readings are very approximate, and as such are a rough guide only. They should however, suffice for most orchid growing purposes. For those of you who prefer lux, and for ease of calculations, it should be close enough to consider one foot-candle as about 10 lux.

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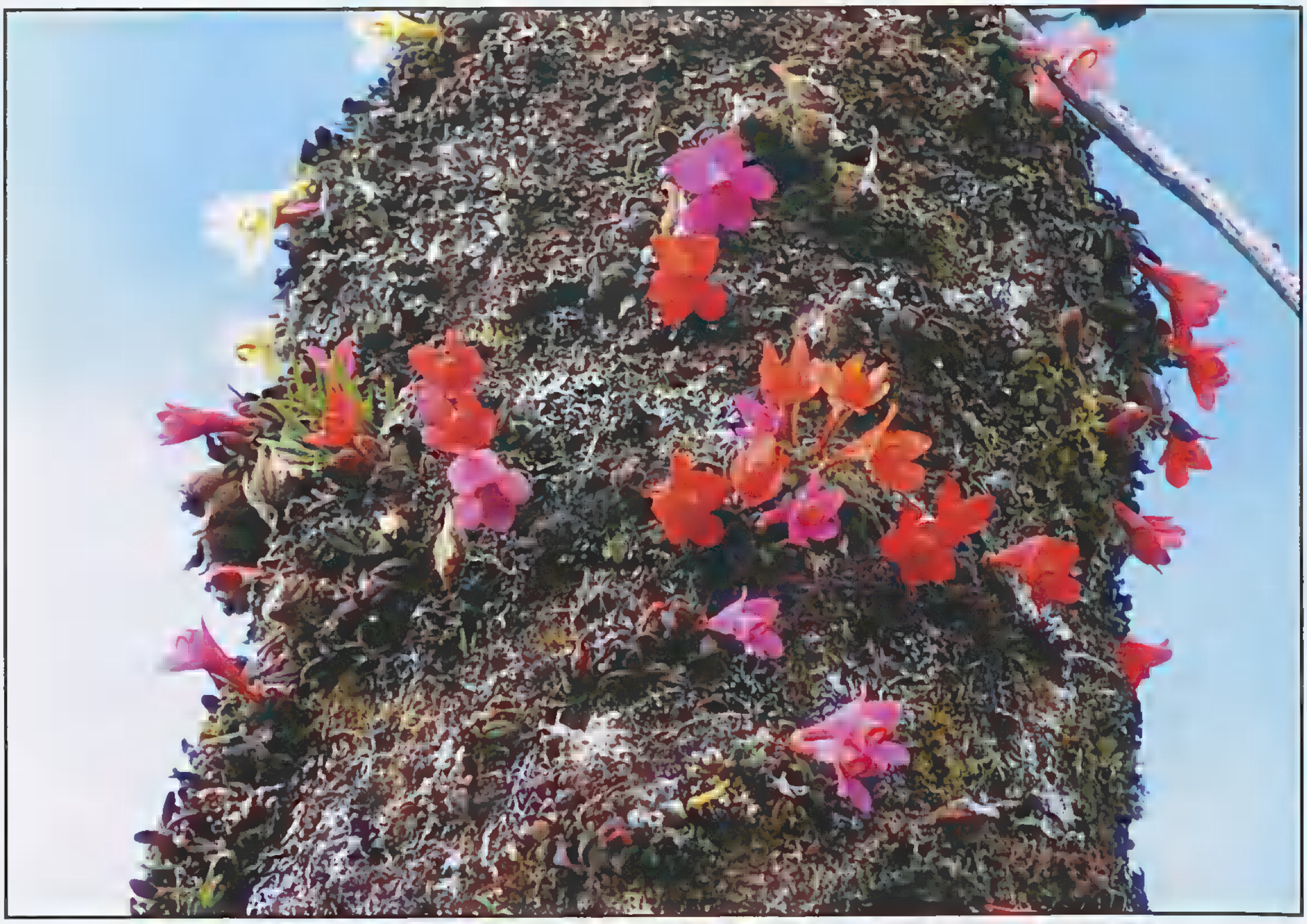
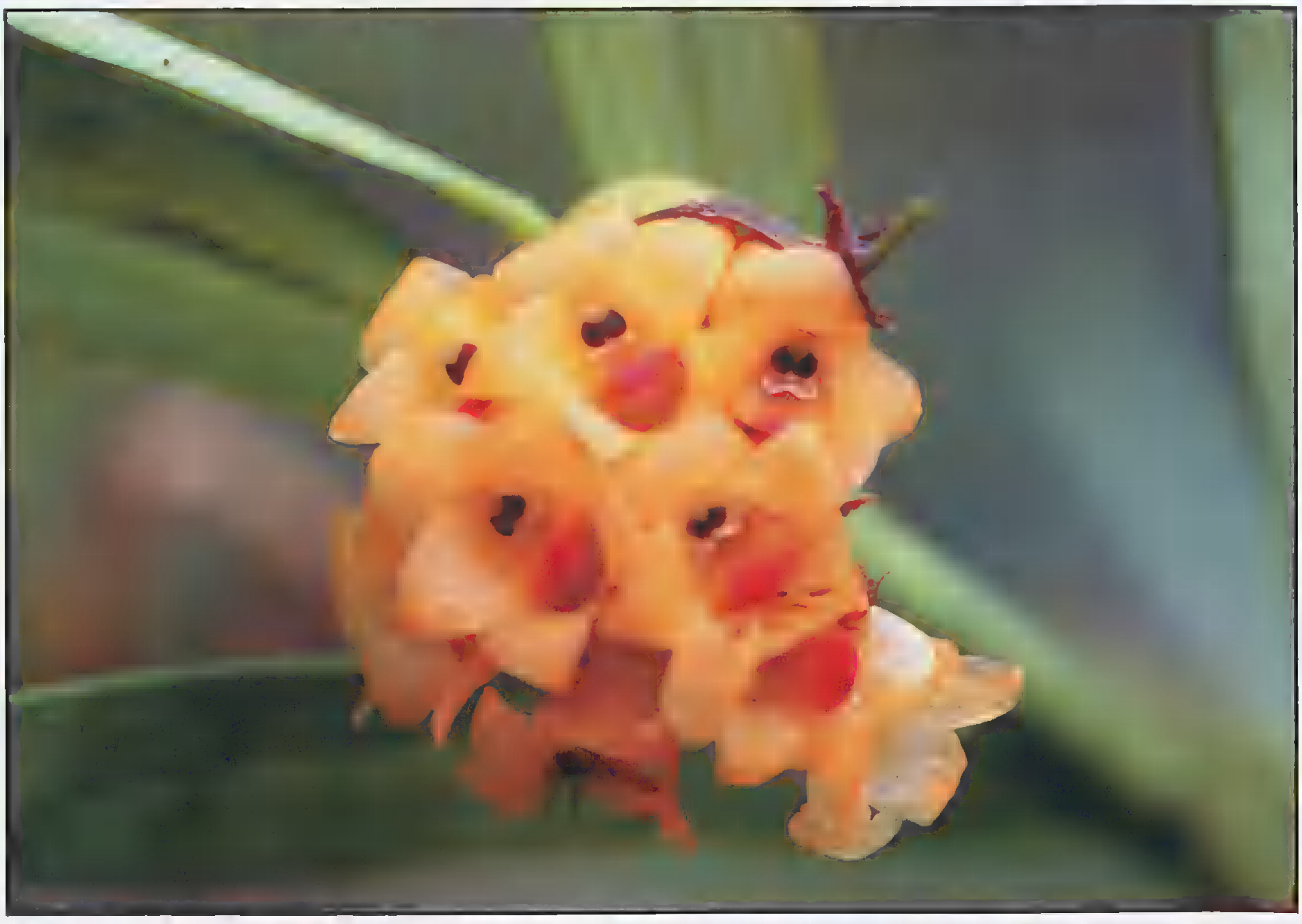
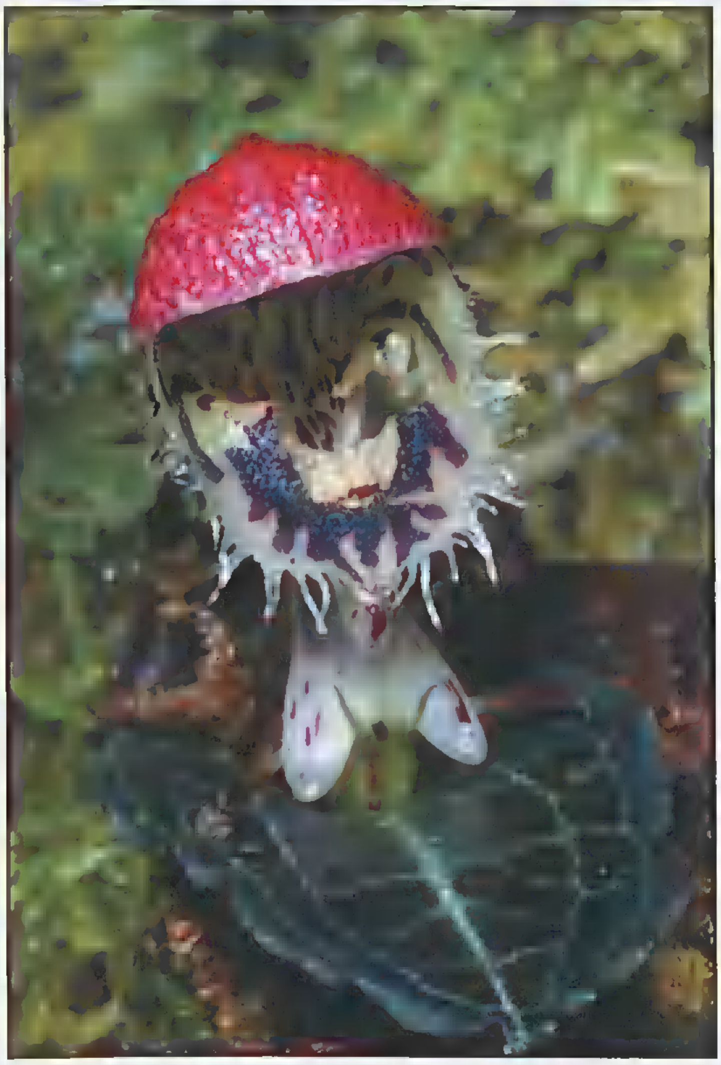


Dendrobium cuthbertsonii, growing on tree ferns at Tari Gap.

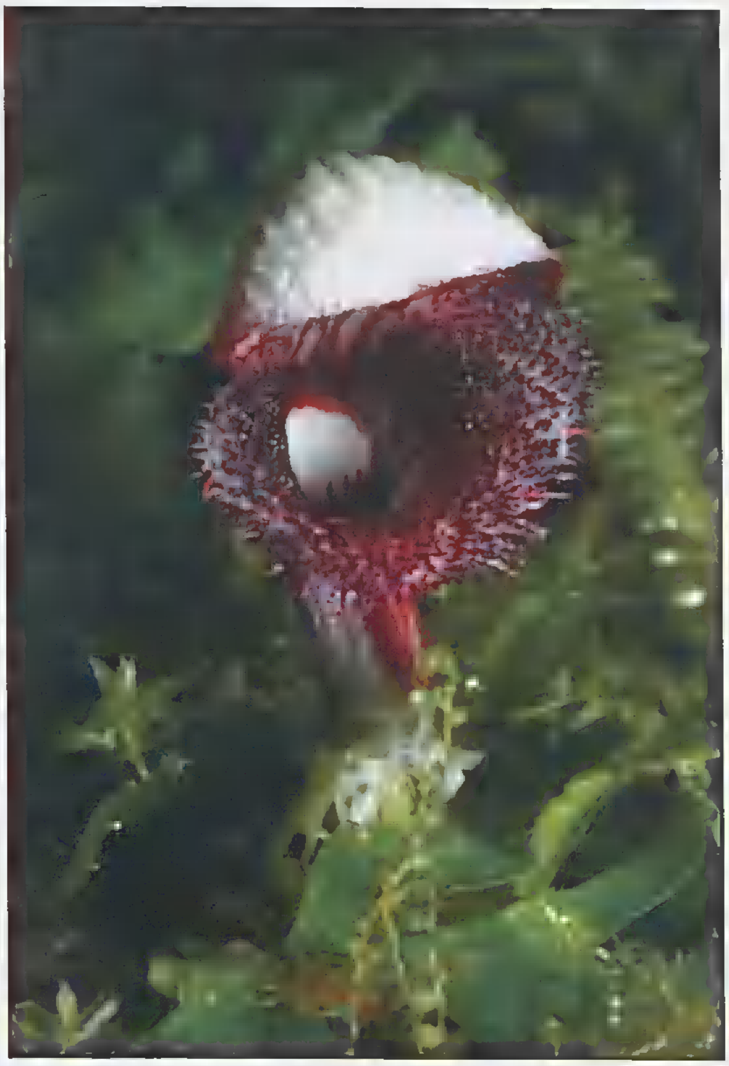


Glomera aurea

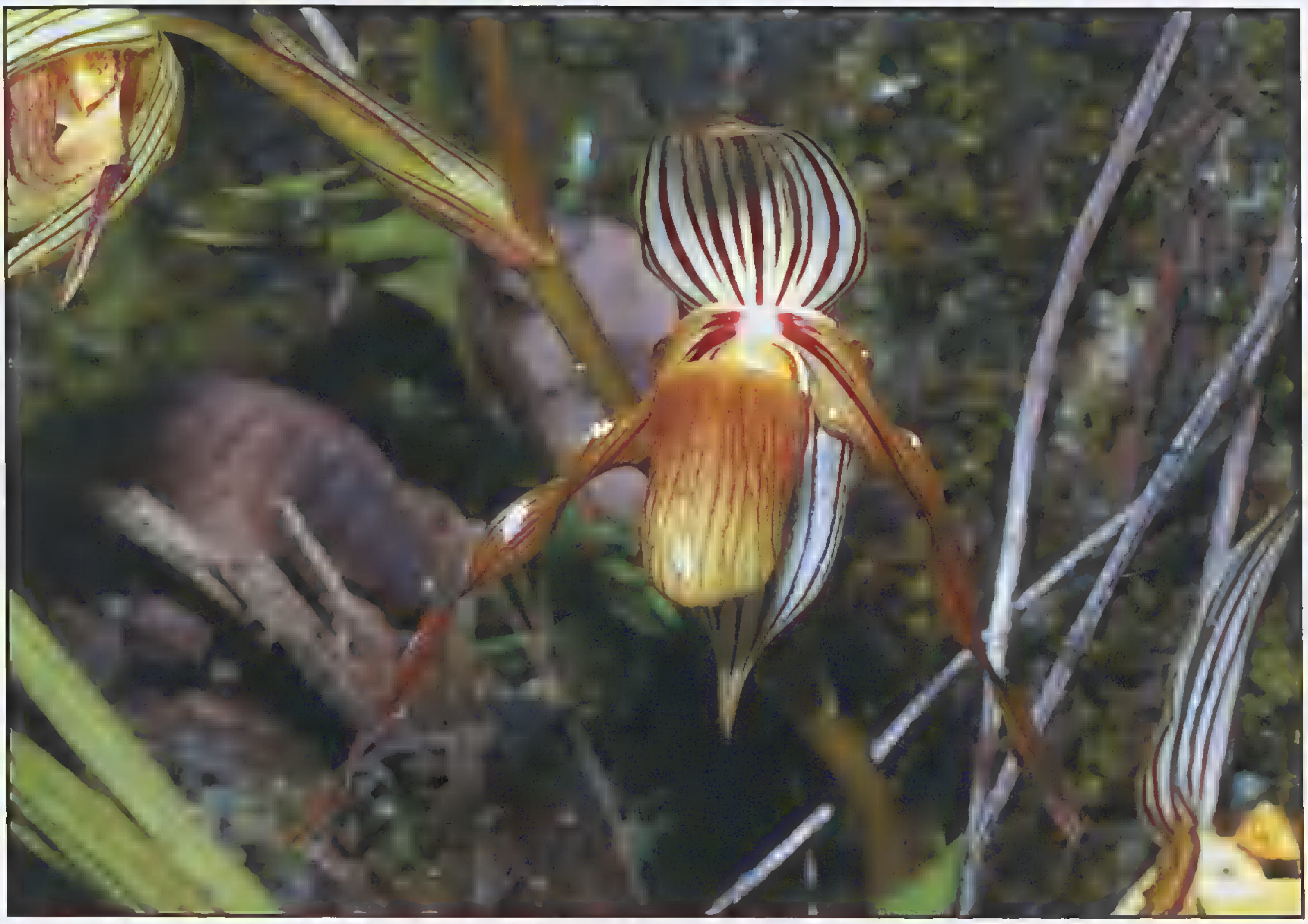
Photos Cary Polis



Corybas species from Mt Wilhelm



Corybas subalpinus



Paphiopedilum striatum,

Photos Gary Yong Gee

What an Adventure: An Orchid Tour of Papua New Guinea.

Peter Presland
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In early August of 2006, a group of eager Aussies gathered at various points within Australia, preparing to set off on what was to be for me, 'The trip of a life time', an orchid tour of Papua New Guinea. The group consisted of eleven people, two of which were the tour leaders, Geoff Stocker and Phil Spence. On arrival at Port Moresby a representative of Niugini Holidays collected our baggage and set off to confirm the accommodation at Port Moresby. A second bus took us on a short trip to Parliament House to view the orchid show hosted by the Orchid Society of Papua New Guinea. What a marvelous site, orchids set up amidst the manicured gardens.

After spending an hour or so at the show, we boarded the bus returning to the motel to freshen up before dinner. Dinner was a semi formal affair at Parliament House. Guests included Sir Michael Somare, the Prime Minister, Sir Rabbie Namaliu Speaker of the House of Parliament and other government officials, also Neo Tuan Hong and Syed Yusof Alsagoff both these gentlemen are leading *Dendrobium* hybridists from Singapore. Justin Tkatchenko and Rocky Roe from the Orchid Society of Papua New Guinea along with some of the best orchid growers from New Guinea. After the welcoming speakers the awarding of the champion prizes was undertaken. The majority of the champion awards went to Godfrey Seeto. Another part of the night's formal activities was bestowing life membership of the Orchid Society of Papua New Guinea to Phil Spence. The other important part of the night was the unveiling of a bronze bust for the speaker of the house Sir Rabbie Namaliu. This was followed by a performance of traditional dancing. A great night was had by all.

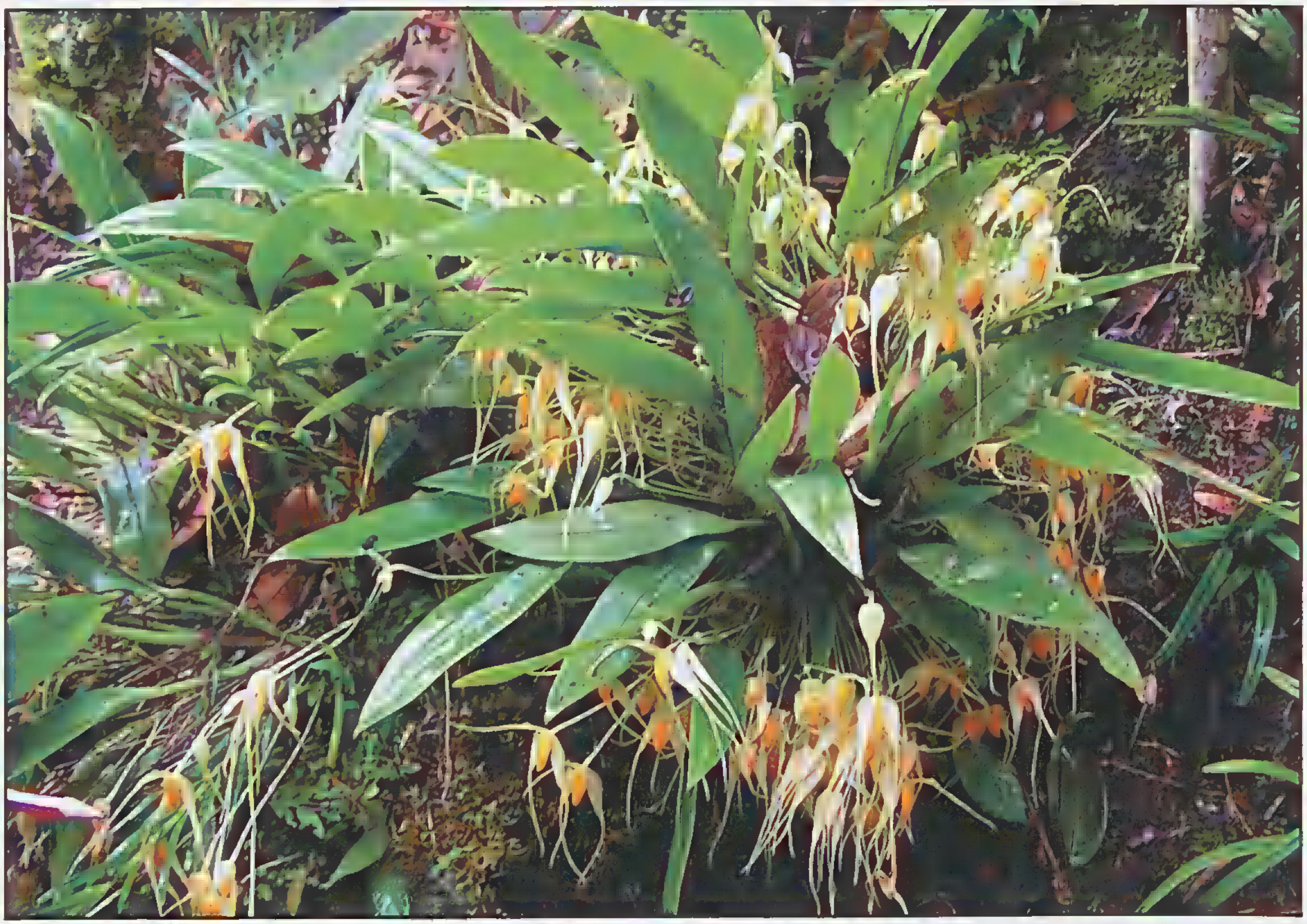
The second day started at Parliament House taking photographs before heading to see the sites of Port Moresby. First stop, the National Capital Botanical Gardens, here we were able to see first hand the work and dedication Phil Spence had put in to developing the orchid industry in Papua New Guinea. Unfortunately, with a change in government and no further funding for orchid research and development of a cut flower industry has past. However, Phil was able to catch up with some his former staff so we could gain access to areas not normally seen. For lunch we returned to the motel, the rest of the afternoon was spent touring around Port Moresby and obtaining supplies for the rest of our trip. Dinner that night was with Godfrey Seeto; his residence is the former German Embassy which over looks Port Moresby and the harbour. Once again we were able to mix and talk with the leading orchid growers of Papua New Guinea and Singapore.

An early start the next morning, gathering our baggage and off to the airport for our flight to Tari (Lat. 8.20S. Long. 146.55E. and approximate altitude of 5500 ft). Because of the cloud cover very little of the country side could be viewed but what could be seen was unforgettable. Several hours later we arrived at Tari, it looked as if everybody from the region was there to meet the aircraft. One gentleman dressed traditionally in grass and feathers, greets every aircraft and then helped us unload. Even in traditional dress the modern world is not far away as he had a computer bag over one shoulder with a laptop inside. Once aboard our transport that consisted of an all terrain buses we started the first of many highland road trips that we were to encounter, this trip was to Ambua Lodge (approximate altitude 7500 ft). Along this short trip we were able to see our first wild orchids *Eria micholitzii*, *Dendrobium macrophyllum* both were in full flower;

many other orchids were seen along the way, including an unknown *Dockrillia* species. Arriving at Ambua Lodge we were surprised to find eco accommodation of high quality so far from major settlement. After settling into our rooms, we surveyed the grounds and orchids by taking a short walk around the gardens of the lodge and also a garden cared for by one of the local growers. What a marvelous place, *Bulbophyllum* species, mostly unknown, *Dendrobium subclausum, Dendrobium cuthbertsonii* and *Dendrobium vexillarius*, and some of the varieties including var. *elworthii* a bright orange form. In addition many other *Dendrobium* species also in full flower bewildered us. Other orchids seen include *Cadetia* species, *Coelogyne fragrans, Dendrochilum longifolium, Epiblastus auriculatus, Glossorhyncha species, Hapalochilus species, Mediocalcar bifolium and M. decoratum, Saccoglossum papuanum*, a very rare species. These plants have leaves similar to a small leaf of *Dendrobium tetragonum*, but are covered in small white hairs, and a flower resembling a miniature slipper, a close relative of *Bulbophyllum.* The terrestrials we saw would bewilder most people who have not seen any of the New Guinea terrestrials, some of the species we were able to put a name to were *Corybas subalpinus, Malaxis* species and *Pterostylis caulescens* were observed.

On the fourth morning it was back onto the buses for an all day trip to Tari Gap (Lat. 8.20S. Long. 144.55E. approximate altitude 7500 ft), the pass between the mountains that allows planes to access Tari Airport. Joining us on this part of the trip was Joseph Tano our local guide. When we alighted from the bus first impressions can be deceiving; it looked as if nothing would grow here. The area consisting of mostly grassy heath lands with a few scattered large tree ferns, around the edges were patches of stunted moss-forests with the odd small forest within the grasslands in the distance. What a surprise package this was, *Dendrobium cuthbertsonii* in full flower and with all the colours that this orchid is famous for, were growing on the trunks of the tree ferns. Some of tree ferns carrying four or five different colour forms. Other epiphytic orchids seen on the tree ferns were *Agrostophyllum montanum* and many *Glossorhyncha* species. Amongst the grasses were *Cryptostylis papuana, Spathoglottis papuana* and *Malaxis* species. Making our way through the grasses we reached the tree line our feet wet and so were our legs. There was not a cloud in the sky, the sun was warm but the water was cold. This was a totally new world! *Bulbophyllum* species on most trees as well as *Dendrobium cuthbertsonii, Dendrobium subclausum, Dendrobium vexillarius* var. *albiviride* with its light green flowers and orange labellum, *Dendrobium subacaule* in full flower some even carrying seed pods. Other orchids seen flowering in the moss-forest area included *Ceratostylis* species, *Mediocalcar bifolium, Pediochilus* species another genus closely related to *Bulbophyllum* and *Taeniophyllum aureum. Taeniophyllum aureum* one of the many leafless species closely related to *Sarcochilus*, a mattered mass of green roots with small yellow flowers on long inflorescences from the apex.

The return trip to Ambua Lodge produced another surprise a large tree had fallen along side the road, so we had to stop and see if any orchids were there, in this endangered environment. Most of the plants were dead, but several were found alive and saved by returning them to the Ambua Lodge for replanting. Among the plants recovered were *Dendrobium subacaule, Glossorhyncha* species and others. There was also the surprise of finding an unnamed species within the Latourea section of *Dendrobium.* Before leaving Ambua Lodge, we had another quick trip viewing orchids in the wild. Several unknown *Bulbophyllum* species were seen along with many spectacular *Cadetia* species, *Calanthe* species, *Coelogyne fragrans, Dendrobium*



A *Bulbophyllum* species with the 'wow' factor.

The vista across Tari Gap with scattered tree ferns and cloud forests in the distance.

Cloud forest habitat, trees and branches are full of mosses and orchids.

Photos Ian Nelson

cuthbertsonii, Dendrobium finisterrae, Dendrobium subclausum, Dendrobium vexillarius and a *Phreatia* species with small white flowers on very long inflorescences. On this walk were two 'wow' plants. Possibly an undescribed *Coelogyne* was the first plant seen. This plant with its bright yellow flowers and a beautiful red brown labellum must be closely related to *Coelogyne fragrans*. An undescribed *Bulbophyllum* was the second major find. This had grown into a clump about one metre square and was in full flower, forming a mass of white and orange, the sepals and petals were almost translucent to white the labellum was large and a vivid orange. Keeping in mind that many of the orchid species of New Guinea are described but from my observations and a search in Schlechter's Orchidaceae of German New Guinea (Schlechter R. 1982) I believe many more are yet to be described including these stunning species.

Early the next day our transport arrived for the road trip to Mendi (Lat 6.10S. Long. 143.35E. approximate altitude 9000 ft). The tour company had some concerns with the unrest developing in the Southern Highlands due to a local election so an escort was arranged. A police vehicle pulled in to Ambua Lodge shortly before it was time to leave, our escort. As we gathered our belongings it became apparent that one our group was very ill, a dose of Bali belly. At this point our police escort offered to assist by caring for our sick friend. As we approached Mendi we stopped at several road cuttings. Not expecting to see a great range of orchids it was surprising the number of different species found. Among the orchids found were *Coelogyne asperata, Spathoglottis montana, Bulbophyllum agastor, Paphiopedilum striatum, Eria* species, and *Dendrobium* species section Grastidium. As the day was rapidly coming to a close it was decided to head for Kiburu Lodge our accommodation at Mendi. After checking into our rooms a short walk around the grounds of the lodge was made, with a variety of orchids growing, including, *Mediocalcar bifolium, Coelogyne fragrans, Dendrobium vexillarius, Dendrobium vexillarius* var. *albiviride, Dendrobium subclausum, Glomera aurea*, with its large pompoms of bright yellow flowers that have a striking orange labellum and several showy to insignificant *Bulbophyllum* species.

The following day was spent traveling around Mendi Valley searching for that elusive rare unknown orchid. However some surprises were installed with several orchids found growing amongst the Kuni Grass (a cane like grass) by the road several *Dendrobium* species and plants within the Sarcanthinae group which had dark green and white flowers; it was a shame the flowers were very small. These grass growing orchid species depend on not getting burnt by local fires, which could have devastating effects on the orchid populations.

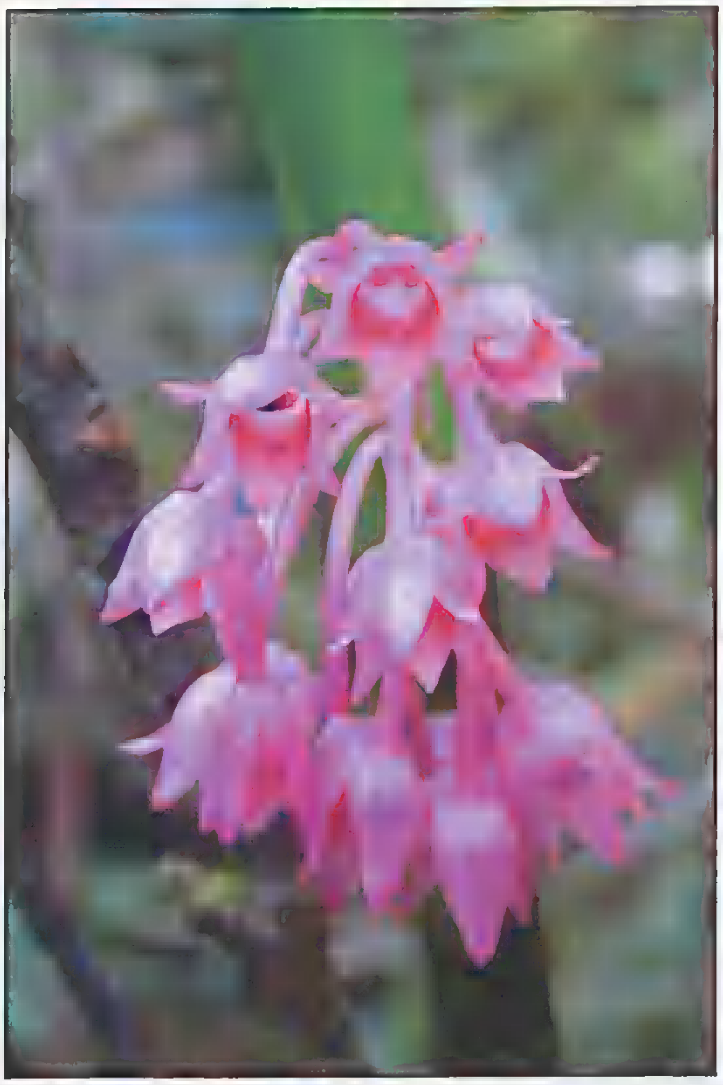
A change of pace was in order for the next days outing. We traveled to Wabag (Lat 5.30S. Long. 143.40E. approximate altitude 7160 ft), where the Enga Provincial Show was under way. This comprises of villages throughout the highlands all in traditional dress and performing traditional dances as if in competition. These people are so proud of there tradition and love to show it off. In other parts of the show ground displays and stalls were established. Huts, buildings and child care conducted the traditional way were also a feature of the Enga Show. A special sight was a young mother and child that were dressed in pre-missionary dress, the baby wrapped in leaves and the mother had only a *Pandanus* tree leaf skirt. She was breast feeding and her mother was also dressed the same but had white-grey clay on her face, our guides said to see this is extremely rare. A great day was had by all who attended. It was getting late so we headed back to our accommodation.

Tomba Pass was the destination for the next days travel. Along the way we stopped to view orchids located in roadside cuttings. Some of the orchids seen in these cuttings include *Glomera aurea, Spathoglottis papuana, Epiblastus auriculatus* and *Glossorhyncha virids*, a white and green species and many other species of *Glossorhyncha*. Finally arriving at Kumul Lodge we checked in to our rooms before a leisurely stroll around the grounds of the lodge. For the bird and animal lovers a feeding platform has been erected below the upper deck of the lodge. This enabled the visitors to sit and watch the Birds of Paradise and other birds coming in to feed from the fruit scrapes placed on the platform. Once the sun set and night had fallen the Cuscus, a cuddly Opossum mammal and other animals would turn up for there turn at feeding.

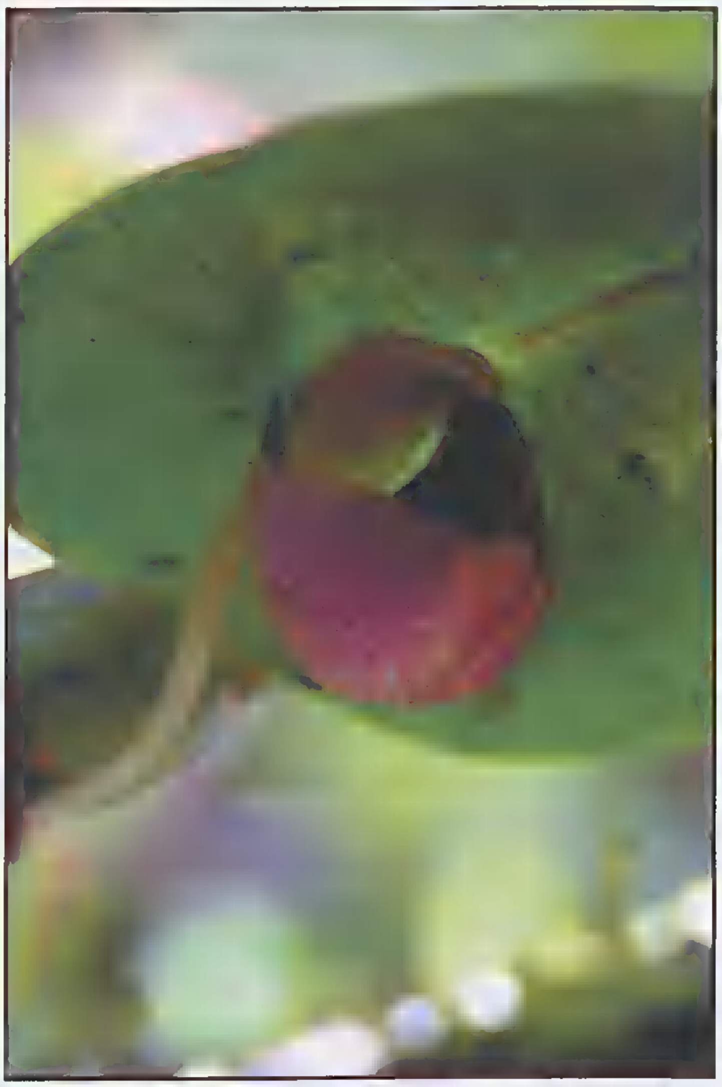
Up early the next morning we set off for Kundiawa (Lat 6.00S. Long. 144.55E. approximate altitude 5500 ft) where we were to change vehicles heading to Mt Wilhelm (Lat. 5.45S. Long. 145.00E. approximate altitude 14500 feet). Approaching lunch time we pulled into one of the many missionaries near Kerowagi, we were greeted by the children who were quickly dispatched by their elders. A quick look around the gardens of the mission and a chat with the residents and we were back on the road. An additional late lunch was had by all while we changed to the four wheel drive vehicles at Kundiawa. By late afternoon we had arrived at Betty's Lodge where we spent the next three days.

After breakfast the next morning we started the trek up Mt Wilhelm. What an adventure it was with so many different orchid species that we had not seen. It did not matter which tree or shrub one looked at, orchids were everywhere. Some of the orchids we recorded on Mt Wilhelm include *Dendrobium alaticaulinum, Dendrobium habinense,* a spectacular species belonging to the section Oxyglossum, the flowers are among the largest in the section and as to the colour a vivid red. Also *Dendrobium rigidifolium, Dendrobium vexillarius* var. *albiviride,* species of *Epiblastus, Malaxis, Pterostylis,* which is the largest *Pterostylis* species I have ever seen, its flowers were similar to *P. baptistii* but were striated in dark ochre-red, we also found some *Corybas* species as well as several unknown *Bulbophyllum* species. As the day wore on the effects of high altitude (around 12,000 ft) become apparent so the gradual trek back to Betty's Lodge along village foot trails started. Some wind falls were picked up on way back. The next morning these were attached to trees in the grounds of Betty's Lodge so as to establish an orchid garden. That night a performance of traditional dancing was put on by the local villagers another memorable occasion. The next morning saw a change in pace with the opportunity to obtain souvenirs with a market setup in the car park of the lodge. This was followed by more traditional dancing and a friendly bow and arrow competition everyone participated. The rest of the day was spent relaxing and with few short walks around the lodge grounds. Betty has also established a trout farm which enabled, those who wished, to have a guided tour around the hatchery this farm is the only one in Papua New Guinea. Along the way a *Dockrillia* species was spotted. This is possibly a new species and would rival *Dockrillia fuliginosa*, only time will tell. The rest of the afternoon was spent relaxing. The next day we went to visit an orchid garden, which was being established by a local orchid grower. On the way back we were treated with a demonstration of traditional cooking, fresh vegetables and a sheep being cooked on hot stones placed in a pit and covered with leafy branches from near by trees. A chance to catch our breath and start packing up the souvenirs before a special dinner was arranged by Betty and her staff.

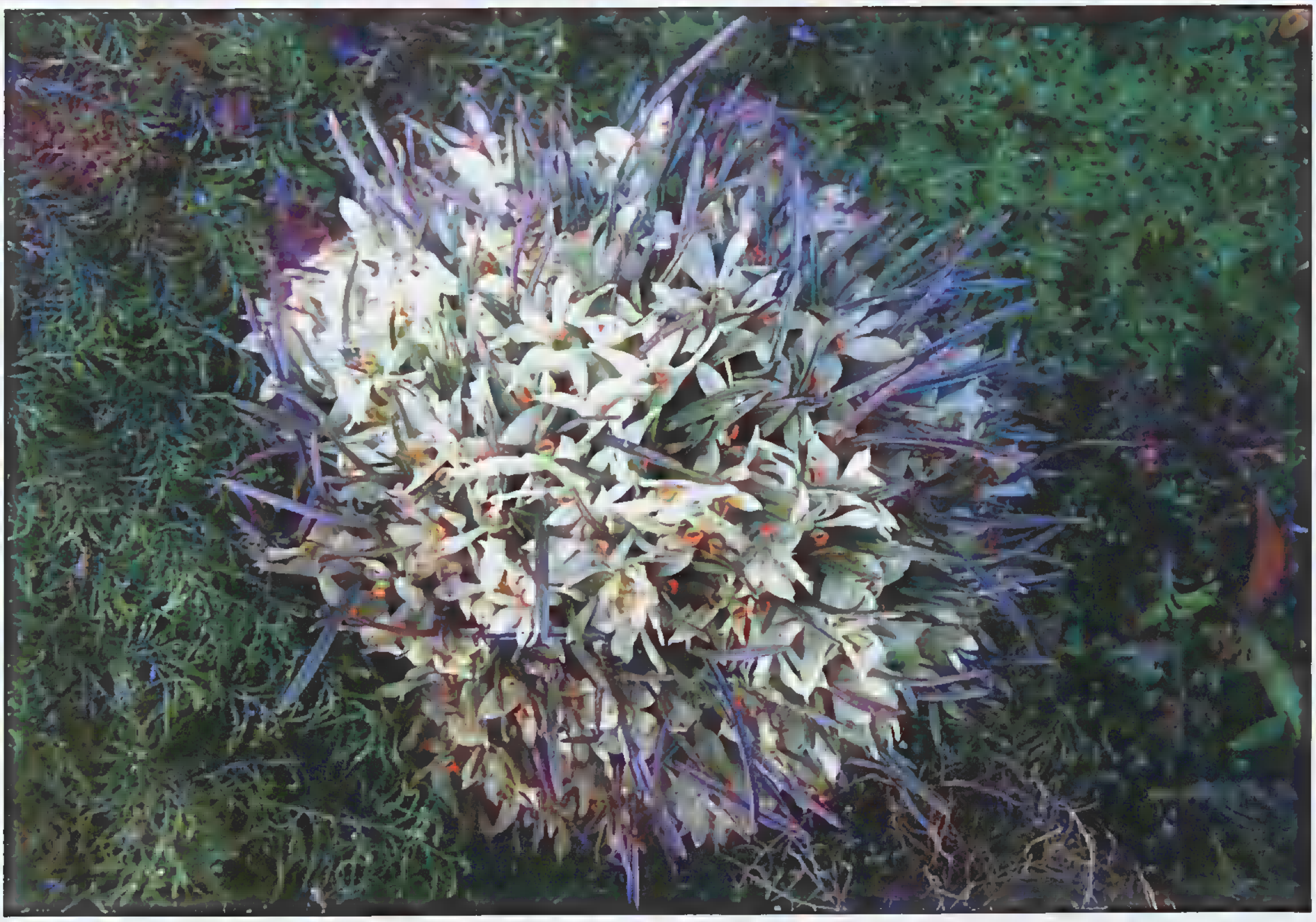
With our bags packed and loaded into



Epiblastus auriculatus

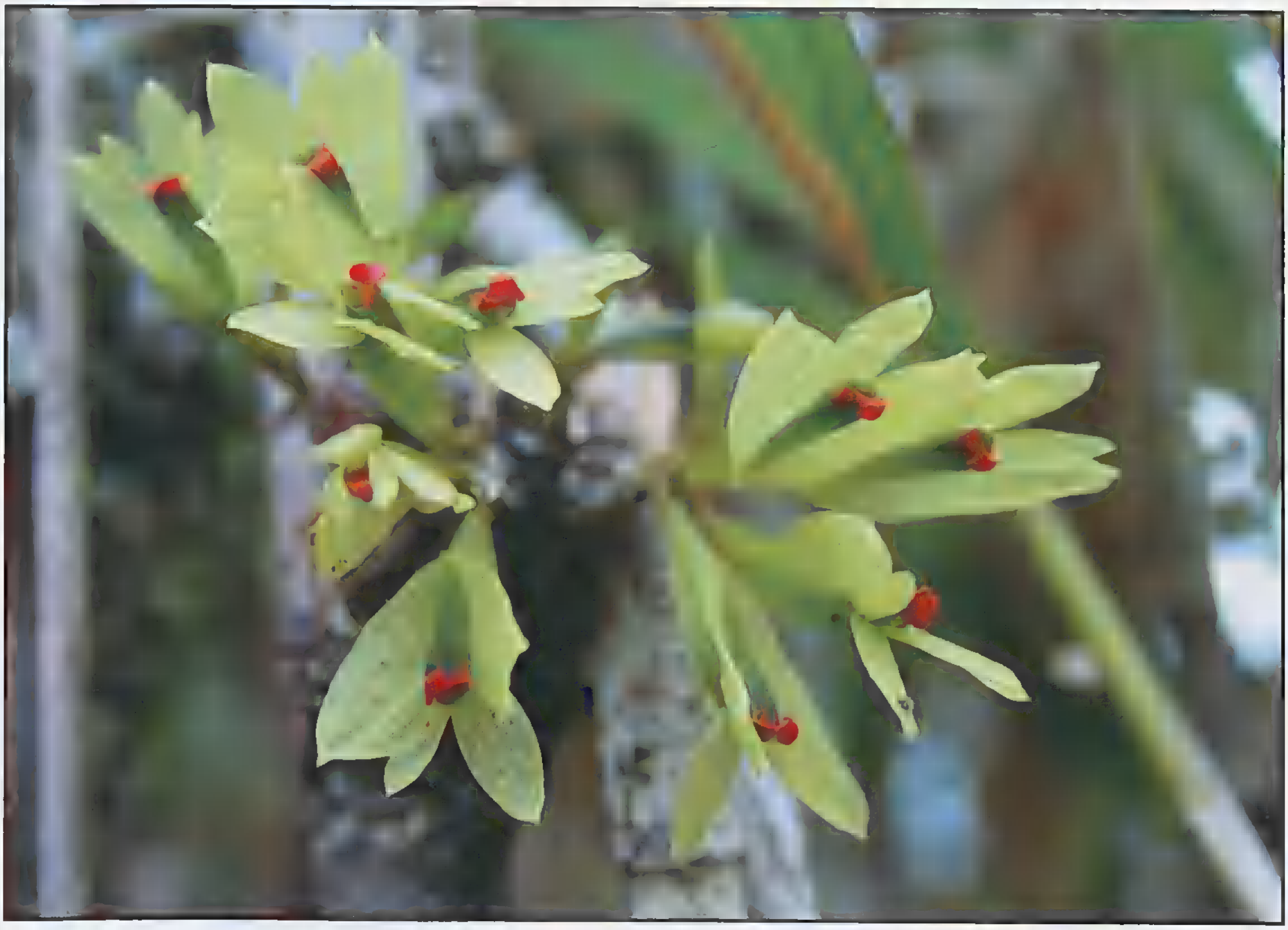


Saccoglossum papuanum

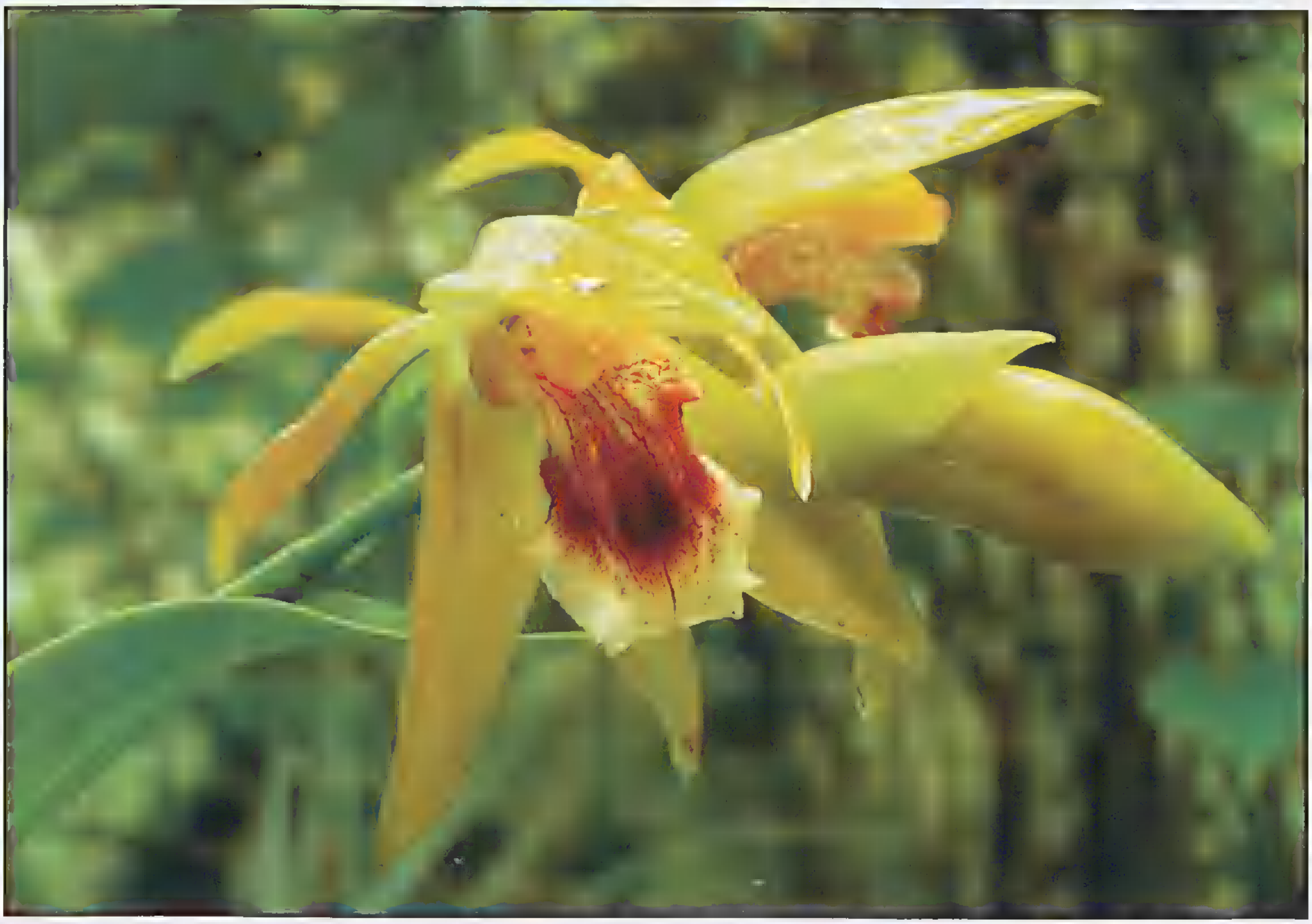


Dendrobium masarangense

Photos Peter Presland



Dendrobium vexillarius var. *albiviride* Photo Phil Spence



Coelogyne species, also with a 'wow' factor. Photo Peter Presland one of the four wheel drives a problem arose with the other vehicle. So while the repairs were made we all started walking down the mountain until our transport caught up. A full day travel was to follow with regular stops along the way checking road side stalls for orchids and photo opportunities, stopping briefly at Mt. Hagen (Lat. 5.45S. Long. 144.05E. approximate altitude 5.500 ft) to stretch our legs before continuing on to Goroka (Lat. 6.05S. Long. 145.25E. approximate altitude 5000 ft), and the Bird of Paradise Hotel.

The next part of our expedition was a trip to Mt. Gahavasuka National Park. This was an area which Geoff Stocker had spent a lot of time establishing an orchid garden in association with Cannon Norman Cruttwell, only to see it destroyed with a change in politics. One of the visible remains is the frame of the bush house with a few pots and mounts scattered around the floor. Although many of the orchids have been removed by tourists several remain scattered through the trees of the park. *Dendrobium engae, Dendrobium vexillarius, Dendrochilum longifolium, Epiblastus auriculatus, Phreatia* species, *Pterostylis* species and several *Bulbophyllum* species and a large plant of *Bulbophyllum fonflorum* was brought to our attention, these just to name a few. Returning to hotel after a long day and a little free time allowed some the opportunity to purchase a few more souvenirs. This was our last day in the highlands and seeing cool growing orchids in their natural habitat.

Once packed and every one had finished breakfast it was off to the airport for the return to Port Moresby. On arrival at Port Moresby our bags were taken back to our accommodation and we all went to Varirata National Park (1500ft Alt.) There is still evidence of the large gun installations that were for the war. Within the national park we observed *Bulbophyllum fletcherianum* growing on rocks, what a highlight to the trip. This is one of the largest *Bulbophyllum* with leaves exceeding a metre in length. Continuing on we arrived at the start of the Kokoda Trail and on our way back to Port Moresby we visited the beautifully appointed Australian War Cemetery to pay our respects to those who made the ultimate sacrifice for freedom.

This was our final day touring Papua New Guinea the next morning we returned to Australia. What a fantastic trip. I would like to thank Phil Spence and Geoff Stocker for putting together the orchid tour of Papua New Guinea. At this point I to thank Arnold Lockrey for his help in preparing this article and I would like to thank Cary Polis, Gary Yong Gee, Ian Nelson and Phil Spence for the use of photographs which are used with this article.

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Tinonee Orchids
Open Day and Show

SUNDAY
8th JULY, 2007
at TINONEE ORCHID NURSERY
— FREE ADMISSION —

SHOW OPEN
10.00 a.m. - 3.00 p.m.
PRESENTATION OF PRIZES
3.00 p.m.

LIGHT REFRESHMENTS AND FOOD
WILL BE AVAILABLE ALL DAY

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DEMONSTRATIONS & ADVICE FROM
EXPERIENCED ORCHID GROWERS.

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9.00am - 5.00pm, Sat., 7th July &
8.00am - 9.00am, Sun., 8th July.
INQUIRIES
Ray Clement (02) 6553 1012

THE 4th ORCHID FAIR at MINGARA

MINGARA SPORT & RECREATIONAL CLUB
WYONG Road, TUMBI UMBI
23rd & 24th JUNE - Club (02) 4349 7799
With around 24 Vendors incl. one from
South America in attendance

Southern Orchid Spectacular 2007

12th -14th October 2007

At
Sharkies
Captain Cook Drive
Woolooware

NOSTI Shows 2007

Involving NOSTI, Toowoomba Orchid Soc.,
Darling Downs Orchid Society.
Walsh's Seeds and Garden Centre
881 Ruthven Street, Toowoomba 4350
3rd,4th,5th August 2007

Native Orchid Society of Toowoomba Inc.
Spring Show
Milne Bay Military Museum
O'Quinn Street
Toowoomba 4350
22nd to 30th September 2007

NOSTI Orchid Show featuring Sarcochilus Orchids
Walsh's Seeds and Garden Centre
881 Ruthven St., Toowoomba
20th, 21st October 2007

MT. PENANG FLORA FESTIVAL &
A.N.O.S. CENTRAL COAST GROUP
SPRING SHOW

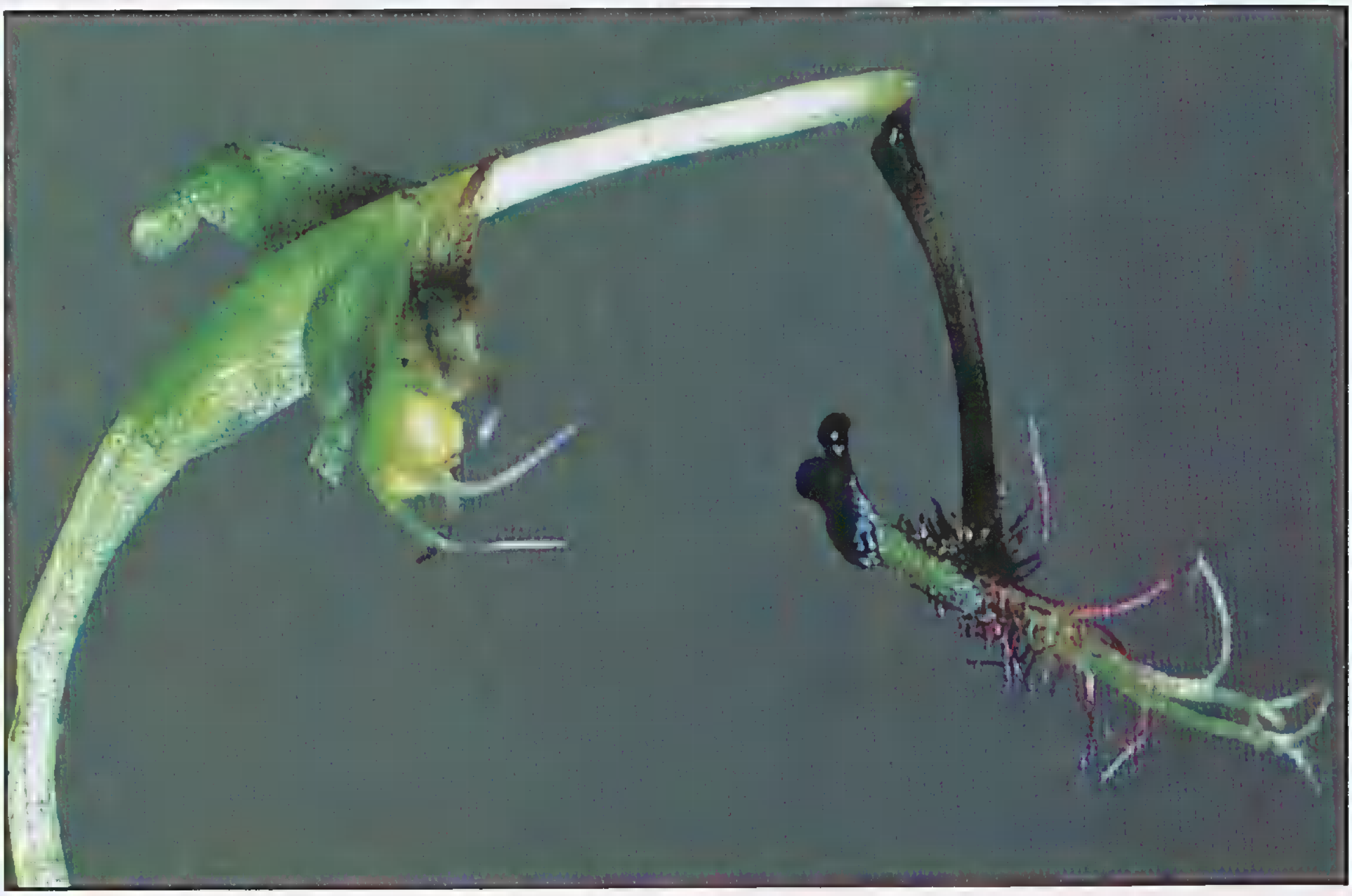
6th, 7th, 8th, 9th, SEPTEMBER
PACIFIC HIGHWAY
MT. PENANG, KARIONG

A.N.O.S. WARRINGAH GROUP SPRING SHOW
8th & 9th SEPTEMBER
STARKEY Street, FORESTVILLE

CENTRAL COAST A.N.O.S.
SARCOCHILUS SHOW

20th & 21st OCTOBER
BUSHLAND NURSERY,
THE ENTRANCE ROAD, ERINA HEIGHTS

Habitat and site of *Thynninorchis nothofagicola* . Photo Alan Stepenson



Thynninorchis nothofagicola Photo Mark Clements

Troubles continue in Tasmania for the Myrtle Elbow Orchid.

Alan W Stephenson
National Conservation Officer
Australasian Native Orchid Society Inc.

In June 2005 (Orchids Australia) I wrote a story about the plight of *Thynninorchis nothofagicola* (Myrtle Elbow Orchid). Information regarding the species came to me from a well informed and concerned conservationist who is not from the orchid fraternity. The article was written in a light hearted manner but now the situation has become more serious for the species concerned and also for me. The consideration at the time was that Lyre Birds imported into Tasmania from Victoria during the 1930's were posing a problem for this species. The concern was due to their normal method of searching for food by scratching and digging, in the manner attributed to numerous species of ground dwelling birds. This, it was thought, would be the threat which could see the end of this single colony. Since then a barrier approximately 4 m x 3 m has been erected around the base of a tree in an effort to prevent Lyre Birds from accessing the plants. In addition to the chicken wire structure, a network of fishing line has been woven across the top of the barrier for further protection. As I approached the orchid area I noted a rainfall indicator which stated the annual rainfall for that area is 1900 mm per year but as most of Tasmania is in the grip of the same drought as the mainland the area was notably dry, considering the density of rainforest through which I walked to the orchid site.

In my position as National Conservation Officer for A.N.O.S., I wrote a series of letters on this matter to the Premier of Tasmania, the Conservation Minister, the Minister for Primary Industry and the Parliamentary Leader of the Tasmanian Greens. Responses were very slow so a second series of letters was forwarded but this time I included the Leader of the Opposition. Almost immediately the second series of letters was posted I received a reply to the original letter. I have since received further responses, which only proves that it pays to be persistent with a measure of diplomacy and belligerence thrown in to confuse the issue. The replies assured me the matter was being seriously considered by the government and all due care would be taken regarding protection of the orchid. As logging was at the time being proposed for an area very close to the site I was even more concerned. This logging operation has now commenced and a further adjacent area is also due to be logged at the end of 2007.

While this exchange of letters was doing the to and fro across Bass Straight I had decided to take a holiday in our most southern state and contacted my orchid informant who gave me directions to the office of a Greens MHA in New Norfolk. On the way from Strahan to Hobart I went to his office and met with the executive assistant who gave me precise directions to the orchid site. A couple of days later on my way to Mt Field National Park in pursuit of the normal tourist activities, I diverted to the area and easily found the orchid site and protective barrier. As the orchid was most likely in the last stages of flower, I held little hope of seeing it but was hopeful of at least getting a glimpse of it in some form. Despite a close study of the small site and a wider survey of the general area I considered the matter lost for the time being and consoled myself with a cup of tea at a logging protest site not far up the road. The protesters were aware of the orchid but had not seen it or visited the site and I am sure they had more trouble than they could cope with in their general logging protest venture, with beatings by local thugs and theft of all wheels of their vehicles being just a sample of the personal cost of their activities.

Since returning from Tasmania I have had contact from the Leader of the Opposition, who had made representations on my behalf to the appropriate government ministers and elicited replies from the Premier and the Minister for Primary Industry and Water, to the effect that a Project Officer was to be appointed in an endeavour to learn more about the orchid. Specific action was to be taken regarding the orchid with monitoring and surveys undertaken to determine potential impacts to the species with monitoring during the next flowering season in February 2008. Since my return I have also received an email from the Forest Officer for the Tasmanian Parliamentary Greens. The email contained information regarding the Recovery Plan, with more contact expected in the future.

The situation for this orchid is no longer a matter for brevity and given the destruction of forest I saw in Tasmania and the political power of the forest lobby, my level of expectation regarding a satisfactory outcome for *T. nothofagicola* is not great.

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3rd International Orchid Conservation Congress, Costa Rica – March 2007

(Reprinted from teh NOSSA Journal May 2007)

Renate Faast
PhD candidate
Dept. Environmental Biology
University of Adelaide

Lachlan Farrington (Postdoctoral fellow at University of Adelaide) and I were fortunate to receive funding to attend a 2-day workshop held in San José, Costa Rica, in March in conjunction with the 3rd International Orchid Conservation Congress (IOCC). The workshop (Population Dynamics applied to Orchid Conservation) focussed on recent methodology to determine the probability of persistence or extinction of a species or population in its natural habitat. The instructors were Professor Raymond Tremblay (University of Puerto Rico) and Professor Pavel Kindlmann (University of South Bohemia, Czech Republic), both with extensive experience in the study of population dynamics of terrestrial orchids.

Following an introduction and historical perspective, we were taught how to collect and analyse demographic data using life cycle diagrams and matrix population models. Use of such models allow calculations of population growth rates as well as predictions of stable stage distribution, reproductive value (contribution of life stages to the next generation) and sensitivities (impact of each life stage on population growth rate) and as such provide an important tool for making conservation and management decisions. The importance of considering variation due to demography (differences between individual plants), spatial separation (differences between populations) and time (differences between months or years) was also highlighted. Theory was reinforced and consolidated by providing an opportunity for each of us to analyse data sets from real orchid populations. Aspects of population dynamics at the landscape level were discussed including metapopulations and island biogeography theory highlighting the importance of migration, fragment size and isolation. Hopefully some of the techniques we learned can be applied to the monitoring data that has been collected in South Australia over the years.

Whilst the workshop was quite intense, we did get the opportunity to wander around the lush grounds of the University of Costa Rica. Obviously we hadn't yet realised where in the world we were because it took us a little while to notice that the Eucalyptus, Callistemon and Casuarinas were actually a long way from home. In our defence though, we weren't used to seeing trunks and branches of Casuarinas totally adorned by epiphytic orchids and bromeliads! It was here that we saw the floral emblem of Costa Rica, the stunning *Cattleya skinneri*. Just some brief statistics on Costa Rica – a country of 51,100 square kilometers with a population of about 4.5 million people, it contains 4% of the world's biodiversity (equivalent to that of entire North America). Over 25% of the country is protected in forests and reserves and no less than 1400 species of orchids can be found here! Two field trips organised by the conference gave us a wonderful taste of the Costa Rican countryside and rainforests. Tapanti National Park and Bosque de Paz, a privately owned reserve, are both lush rainforests brimming with epiphytes. Although we didn't see many orchids in flower (apart from the tiny *Lepanthes*, thankfully pointed out to us!), we were more than rewarded by the stunning displays in the Bosque de Paz orchid garden and the Lankaster Botanical Gardens. The 6 species of hummingbirds (one not much bigger than a bumblebee) busily extracting sugar from the feeders also kept me mesmerised for some time.

Now, back to the congress. The scientific presentations at the IOCC included those directly relevant to Lachlan's and my research projects as well as providing an excellent overview of global orchid research and conservation challenges. Equally as valuable was the opportunity to network with experts in the field from all around the world. It was great to see so many Australians (about 15) present although we found it a bit ironic that we'd travelled to the other side of the world to meet them! I will briefly summarise some of the presentations I found particularly interesting.

Belinda Newman, a PhD student at Western Australia's Murdoch University, has been evaluating the use of terrestrial orchids as indictors of ecosystem health in remnants of bushland in and around Perth. She assessed the vegetation condition of 5 urban bushland sites ranging from poor, highly disturbed fragments to healthy, relatively intact fragments. Belinda's results suggest that the presence of orchids at a site is not a good indicator of the health of the ecosystem. She also found that pollination success was not affected by the condition of the vegetation, however for two orchid species, seedling survival was higher at healthier sites.

Kelli Gowland, a PhD student at Australian National University, Canberra, is apparently the only researcher currently studying Australian epiphytic orchids. Kelli has shown that the three species of epiphytic orchids she studied have quite different patterns of distribution across woody plants. Whilst one was randomly distributed, the others showed some preference or even avoidance of particular tree species. Surprisingly this did not seem to correlate with the distribution of mycorrhyzal fungi. Potentially the most exciting outcome of Kelli's research is an experiment showing that orchid mycorrhyzal fungi are actively attracted towards viable orchid seed.

Marilyn Light from Quebec, Canada, carried out quite a detailed experiment to examine the effects of trampling on the terrestrial orchid environment. Marilyn showed that effects of soil compaction as a result of trampling (standing in the same spot for 5 minutes per day for 10 days), are still evident four months later. Furthermore, she found that trampled areas had changes to the abundance, taxa and trophic groups of soil nematodes (used as indicators of soil condition) and suggested that this may lead to changes in the composition and abundance of mycorrhyzal fungi.

Carol Wake from the University of Dakota is studying the effect of competing foliage on the pollination of the White Lady's Slipper terrestrial prairie orchid. Pollination success at an open (mowed) site was double (44%) that found in dense (22%) and medium dense (18%) sites. However, plants at the open site appeared to suffer a trade-off in that sun damage to foliage resulted in a reduction in tuber development.

Perhaps somewhat of a controversial theme at an orchid conservation conference was Professor James Ackerman's talk (University of Puerto Rico) on the potential invasiveness of many orchids. There are currently 90 species of orchids listed as invasive and Prof. Ackerman's interests lie in trying to understand what characteristics make some orchids invasive while others are rare. So far it has been difficult to find a common thread amongst invasive species. He finished his presentation with an interesting dilemma: are invasive orchids bad? We don't know - they could potentially be carriers of plant pests and diseases or compete with native species, they may be poor competitors and hence not pose a problem, or they may even be beneficial by increasing biodiversity or accelerating successional processes.

Back to Australian research, Nigel Swarts is exploring the feasibility of an integrated approach towards the recovery of the nationally endangered *Caladenia huegelii*, as part of his PhD studies at the University of Western Australia. His studies investigated population genetics, pollination biology, fungal associations, propagation and transplanting as well as the *ex situ* conservation of seeds and fungal isolates. Ryan Phillips, also at the University of Western Australia, has been looking at factors that influence rarity in orchids. His results indicate that sexually deceptive species have higher incidences of rarity, compared to their food deceptive or food rewarding counterparts, and that species in naturally fragmented habitats such as swamps, salt lakes or granite outcrops have the highest incidence of rarity. Magali Wright is in the final stages of her PhD at the University of Melbourne and talked about her experiments showing that soil disturbance is the most effective at improving *in situ* seedling recruitment and survival of *Caladenia tentaculata*. Zoe Smith spoke about the work she carried out as part of her PhD studies at the University of Melbourne, looking at the reintroduction of the threatened *Diuris fragrantissima*. Gary Backhouse (DSE, Victoria) presented a detailed national assessment of Australia's orchids highlighting the discrepancies in the processes used for listing threatened species at the regional and national level, resulting in huge underestimations of the actual number of threatened orchids.

Perhaps one of the most significant outcomes of the Congress came about when Kingsley Dixon (WA) and Gary Backhouse pointed out that a large proportion of the research being carried out in Australia is on species belonging to *Caladenia*. It was suggested that we hold a national workshop bringing together people working on this genus to summarise current studies and identify knowledge gaps for future research. It was decided to hold this workshop in Adelaide later this year, and we have been busy applying for funding to make it happen. I think it is an exciting opportunity not only for orchid research but also for integrating science with the on-ground management and conservation of orchid species.

Well, that was a very quick sprint around the IOCC – if you'd like more information about any of the presentations, please feel free to contact me (renate.faast@adelaide.edu.au). It was a great privilege to be immersed into such a wealth of orchid information, highlighting not only the huge amount of work that is being done all around the world to study and conserve our orchids, but also the great number of questions that are still waiting to be answered.

I wish to thank: Environmental Futures Network (Early Career Researcher Scheme); Research Abroad Travel Scholarship and the Department of Environmental Biology, University of Adelaide for funding this trip.

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Two endangered new species of *Prasophyllum* (Orchidaceae) from southern New South Wales

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Abstract

Prasophyllum innubum and *P. keltonii*, both with a highly restricted distribution in southern New South Wales, are described as new.

Key Words

Orchidaceae, *Prasophyllum innubum*, *Prasophyllum keltonii*, critically endangered, endangered, new species, Australian flora, New South Wales.

Introduction

Continuing studies by Peter Branwhite and Jim Kelton into the orchid flora of the Bago State Forest and Maragle State Forest in southern New South Wales have revealed the presence of two undescribed species of *Prasophyllum*. Significant parts of these forests are grazed and suffer from the problem of cattle concentrating on open mesic sites such as grassy plains, herbfields and streambanks, resulting in excessive grazing, trampling and soil pugging. Both forests are also subject to logging operations and in recent times gem fossickers have become active resulting in soil removal and undermining of some stream banks. The two orchid species which are detailed here, both currently known from restricted areas within the Bago State Forest, are considered to be endangered and are here described as new.

Materials and Methods

Descriptions of taxa were made from fresh specimens. Dried specimens of *Prasophyllum* were examined from the following herbaria: CANB, CBG, HO and MEL. Unless otherwise indicated, all types of *Prasophyllum* species relevant to this study (or photographs thereof) and collections cited have been seen.

Taxonomy

1. *Prasophyllum innubum* D.L.Jones, ***sp. nov.***; affinis *P. mimulo* D.L.Jones, sed floribus minoribus; sepalo dorsali breviore, retuso; sepalis lateralibus fere omnino connatis, oblongis brevioribus retusis; petalis brevioribus, anguste linearis; labello elliptico-oblongo, callo oblongo, praeter semi-longitudine laminae extenso, differt; quoque *P. alpestri* D.L.Jones, sed floribus multo minoribus; petalis anguste linearis; labello minore elliptico-oblongo, differt.

Type: New South Wales. Brandy Marys, Bago State Forest, 12 Feb. 2005, *P.G.Branwhite 297 & J.Kelton* (holo CANB 658274).

Description: *Leaf* erect, terete, 25-50 cm long, 3-5 mm wide, bright-green, shiny; base c. 3-4 mm across, whitish or purplish; free lamina erect, 7-15 cm long, often distally withered at anthesis. *Inflorescence* a loose spike 5-8 cm long, consisting of 6-20 flowers. *Ovaries* at about 45° to the rachis, obovoid, 4-6 mm long, 2.5-3 mm wide, green, shiny. *Flowers* subsessile, 6-9 mm across, brownish green with white and purplish petals and a white or pink labellum. *Dorsal sepal* porrect to decurved, oblong-lanceolate to ovate-lanceolate, 5-6 mm long, 3-3.5 mm wide; apex obtuse. *Lateral sepals* connate, obliquely erect to erect, forming a synsepalum behind the labellum, each sepal linear-lanceolate, 5-6 mm long, c. 2 mm wide, straight; margins involute; apex entire, blunt. *Petals* incurved to spreading, linear, 6-7 mm long, 1-1.3 mm wide, with a pink to purplish central stripe; apex obtuse. *Labellum* sessile, porrect in the proximal half, recurved sharply in the distal half. *Labellum lamina* elliptic-oblong when flattened, 7-9 mm long, 3-3.5 mm wide, white or pink; base not gibbous; proximal margins entire; distal margins irregularly undulate/crispate; apex broadly obtuse to apiculate. *Callus* more or less oblong-tapered, 5-6 mm long, 1.5-2 mm wide, green, whitish or pinkish distally; apex truncate to emarginate, irregular. *Column* porrect from the end of the ovary, c.

2.5 mm long, c. 3.5 mm wide, mostly purple; appendages oblong-obovate, c. 2 mm long, c. 0.7 mm wide, straight, purple; apex truncate. *Anther* shorter than the stigmatic plate, ovate, c. 2 mm long, c. 1.3 mm wide, brownish purple. *Pollinarium* c. 3 mm long; viscidium ovate, c. 0.3 mm long; hamulus ligulate, c. 0.7 mm long; pollinia c. 2 mm long, yellow, sectile. *Stigma* quadrate, c. 1.8 mm long, c. 2 mm wide; rostellum about as long as the appendages. *Capsules* suberect, obovoid, 6-8 mm long, 3-4 mm wide, green, shiny. **Fig. 1, a-d.**

Distribution and ecology: New South Wales where currently known only from 5 small colonies in the Bago State Forest and 2 others on the Brandy Marys Crown Lease within the Bago State Forest. I have also seen photos of specimens from northeastern Victoria taken by Dean Rouse and James Turner that have similar features to *P. innubum* and the species may well be more widespread than currently known. In the Bago State Forest the species occurs in the habitat described as “montane swamps and peatlands”. The orchids grow beside small streams in sphagnum hummocks and on adjacent grassy flats, rarely in eucalypt woodland; occasionally also surviving in large sphagnum mounds surrounded by grazed herbfield (P.Branwhite pers. comm.). The orchid plants often grow among low vegetation with the tallest specimens protruding above the shrubs. Alt. c. 1150-1180 m. Flowering: Late January to early March.

Recognition: Characterised by relatively small self-pollinating flowers with the ovary swelling conspicuously during anthesis, the sepals and petals brownish purple with a white or pinkish labellum. The new species has affinities with *P. mimulum* D.L.Jones from Tasmania and also with *P. alpestre* D.L.Jones which occurs nearby. It can be distinguished from both by its much smaller self-pollinating flowers, short, blunt dorsal sepal, short blunt lateral sepals that are usually connate throughout, short narrowly linear petals and a relatively narrow elliptic-oblong labellum with the oblong callus extending more than half way along the lamina.

Notes: This species has been known by the tag name of *Prasophyllum* aff. *alpestre*. The flowers are apparently self-pollinating and appear to lack any fragrance.

Conservation status: Currently known from about 7 small colonies in the Bago State Forest totalling less than 400 plants; one colony destroyed by grazing and most others damaged by grazing; one colony damaged by gem fossicking; the species is probably overlooked due to similarities with other taxa, particularly *P. alpestre*, and may be more widespread than currently known; suggest 2EK by the criteria of Briggs & Leigh (1996).

Etymology: The Latin *innubus,* unmarried, in reference to the self-pollinating nature of the flowers.

Other specimens: NEW SOUTH WALES: Brandy Marys, Bago State Forest, 9 Feb. 2004, *P.G.Branwhite 219* (CANB); Bago State Forest, 20 Feb. 2004, *P.G.Branwhite 221 & 222* (CANB); Brandy Marys, Bago State Forest, 28 Jan. 2005, *P.G.Branwhite 290* (CANB); *ibid*, 12 Feb. 2005, *P.G.Branwhite 297* (CANB).

2. ***Prasophyllum keltonii*** D.L.Jones, ***sp. nov.;*** affinis *P. canaliculato* D.L.Jones, sed floribus congestis, variantibus virentibus, roseis vel purpurascentibus; sepalo dorsali triente distali constricto; petalis angustioribus; labello ovato-lanceolato, medio parum praeter constricto, cauda 3–3.5 mm longa apicaliter contracta; callo late quadrato, apicaliter duobus columinibus lobatis canale centrali confinis, differt.

Type: New South Wales. McPhersons Plain, Bago State Forest, 23 Dec. 2004, *D.L.Jones 19186, T.Hopley, P.Branwhite & J.Kelton* (holo CANB 664871).

Description: *Leaf* erect, terete, 20-35 cm long, 3-5 mm wide, bright green; base 2-3 mm across, reddish to purplish; free lamina erect, 8-15 cm long, usually partly withered at anthesis. *Inflorescence* a dense spike 5-9 cm long. *Ovaries* at about 30° to the rachis, obovoid, 4-5 mm long, c. 2.5 mm wide, bright green. *Flowers* 12-22, crowded, 7-9 mm across, green, brownish red or purplish, fragrant, sessile. *Dorsal sepal* deflexed, ovate to ovate-lanceolate, 7.5-8.5 mm long, 4-4.5

mm wide, with 3 darker stripes, constricted in the distal third; apex recurved, acuminate. *Lateral sepals* free, erect or recurved, linear-lanceolate, 8.5-10 mm long, c. 2 mm wide; base not gibbous; distal margins involute; apex entire or bidentate. *Petals* porrect to spreading, linear to linear-lanceolate, 7-8.5 mm long, c. 1.3 mm wide, incurved distally; apex obtuse to acute. *Labellum* shortly stalked, porrect to obliquely erect; apex erect, at right angles to the basal part, the tip sometimes recurved. *Labellum lamina* ovate-lanceolate, 6.5-7.5 mm long, 4-5 mm wide, constricted near the middle and extending as a tapered apical cauda 3-3.5 mm long; base not gibbous; margins widely flared, smooth; apex acute. *Callus* broadly quadrate, c. 3 mm long, c. 3 mm wide, green to reddish; base broadly concave; margins each ending in a raised lobe-like ridge which flanks a deep central channel, these ridges occasionally confluent. *Column* porrect from the end of the ovary, c. 3 mm long, c. 3.5 mm wide; appendages oblong-lanceolate, c. 3 mm long, c. 0.6 mm wide, divergent, about as long as the stigmatic plate; apex obtuse. *Anther* ovate, c. 1.5 mm long, c. 1.5 mm wide, pink to purplish. *Pollinarium* c. 2.3 mm long; viscidium ovate, c. 0.3 mm long; hamulus vestigial; pollinia c. 2 mm long, yellow, sectile. *Stigma* ovate-quadrate, c. 2 mm long, c. 2 mm wide; rostellum about as high as the appendages. *Capsules* obovoid, c. 5-6 mm long, 3-4 mm wide. **Fig. 1, e-h.**

Distribution and ecology: New South Wales where currently known only from McPhersons Plain in the Bago State Forest. The species grows among grass tussocks on a large flat plain covered mainly with tussock grassland and surrounded by eucalypt woodland. The soil is a moisture-retentive brown loam. Alt. c. 1180 m. Flowering: December and January.

Recognition: Characterised by robust habit, relatively large crowded flowers ranging in colour from green or brown to pink or purplish, dorsal sepal constricted in the distal third, narrow linear to linear-lanceolate petals, and an ovate-lanceolate labellum constricted just above the middle and ending in a tapered cauda 3-3.5 mm long, with a broadly quadrate callus that is concave at the base and with thickened margins that end in 2 raised lobe-like ridges which flank a central channel. In some specimens the marginal ridges of the callus are confluent at the apex forming a horseshoe-shaped structure at the end of the central channel. The new species has obvious affinities with *P. canaliculatum* which has less-crowded red to reddish-brown flowers, broader petals, broadly elliptical labellum with widely flared lateral lobes that taper suddenly inwards at the apex and end in a short erect cauda c. 2 mm long, and a narrower quadrate labellum callus that ends in a narrow channel.

Notes: This species has been known by the tag name of *Prasophyllum* aff. *canaliculatum*. The flowers of this species have a noticeable light fragrance on warm days.

Conservation status: Currently known from a single locality despite extensive searching by Peter Branwhite and Jim Kelton and considered to be Critically Endangered (IUCN 2001).

Etymology: Named after James Edward Kelton (1951-), committed high country conservationist with a strong interest in the recording and conservation of high country native flora and fauna and an archaeologist devoted to the documentation of high country Aboriginal heritage.

Other specimen: NEW SOUTH WALES: Brandy Marys, Bago State Forest, 28 Dec. 2003, *P.G.Branwhite 210* (CANB, NSW).

Acknowledgements

I thank Laurie Adams for the Latin diagnoses, Emma Clifton and Tara Hopley for technical assistance, Peter Branwhite and Jim Kelton for bringing the species to my attention and Dean Rouse and Emma Clifton for reading the manuscript.

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IUCN (2001). IUCN *Red List Categories and Criteria*: version 3.1. IUCN Species Survival Commission, IUCN, Gland, Switzerland and Cambridge, United Kingdom.

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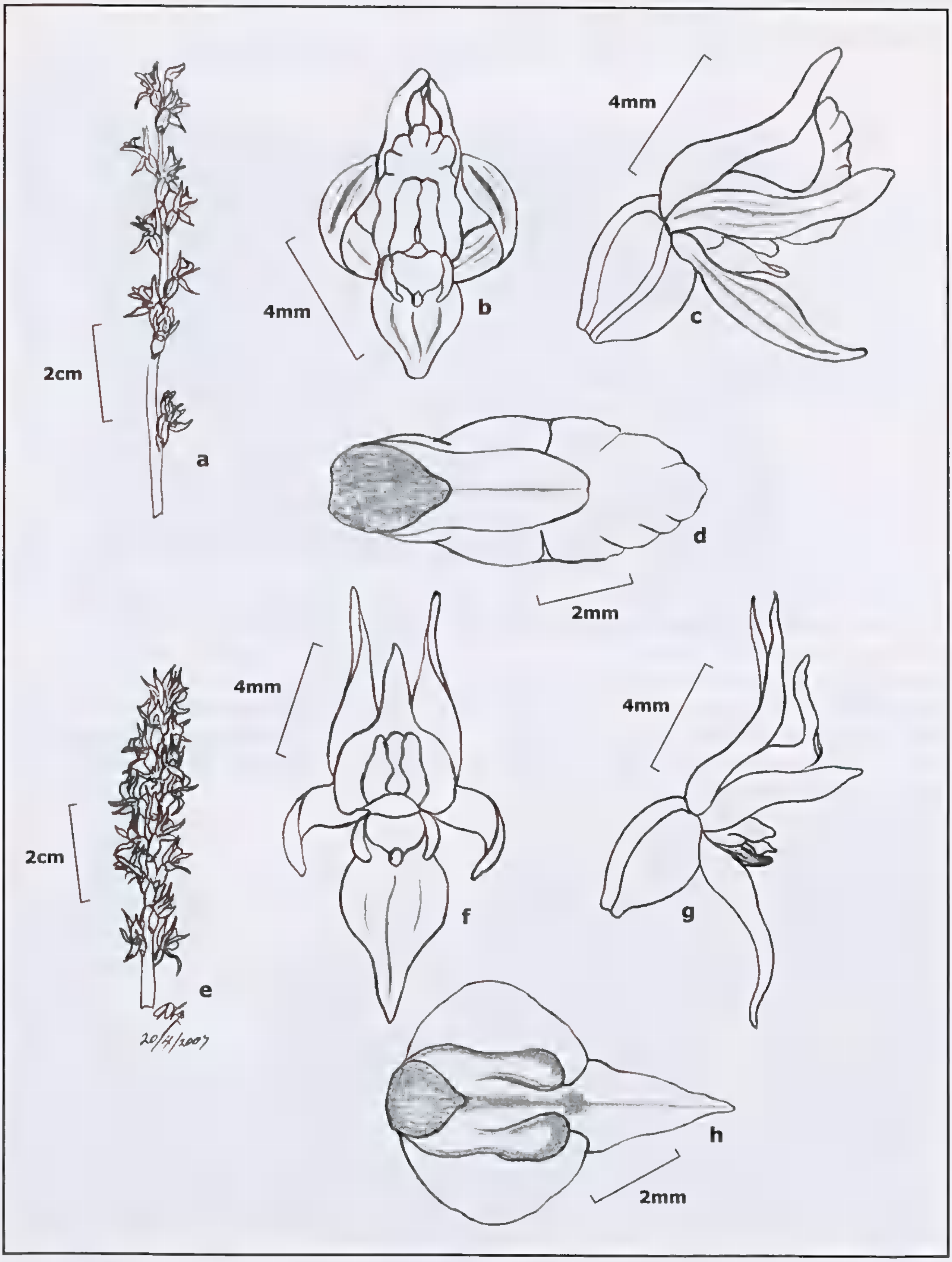

Caption

Fig. 1, a-d, *Prasophyllum innubum*, Bago State Forest, P.Branwhite 221. a. inflorescence; b. flower from front; c. flower from side; d. labellum from above, flattened. **Fig. 1; e-h, *Prasophyllum keltonii*, McPhersons Plain, D.L.Jones 19186.** e. inflorescence; f. flower from front; g. flower from side; h. labellum from above, flattened.

Observations on a population of the orchid (*Caladenia*) *Arachnorchis tessellata.*

P.A. Hadobas
144 Ross Rd
Queanbeyan NSW 2620

This orchid was originally described by Fitzgerald in 1876 from 'Hunters Hill near Sydney'. In Australian Orchid Research Vol 1 this orchid is described as having a distribution from Gippsland Vic, the South Coast, Southern Tablelands and Central Coast of New South Wales. However, in December 2002 the N.S.W. Scientific Committee listed it as endangered as there are only two areas in which it was then known and none of the populations known are within any conservation reserves. Three populations are known in the Wyong area on the Central Coast (a population near Nowra since reported in *The Orchadian* Vol.14 No. 4.) and one near Braidwood on the Southern Tablelands. It is the latter population that is the subject of this note.

This orchid was first observed here in 1981. The initial population found contained ~200 flowering plants, but over the years intermittent observations revealed a marked decline .The vegetation in the area in which they occur is regenerating open sclerophyll forest which had been cleared, windrowed and burnt in the late 1960's. The original vegetation was probably dominated by *Eucalyptus mannifera, E. rossi,* with some *E. dives and E. melliodora* and scattered *Allocasuarina littoralis*, based on adjoining uncleared blocks. The altitude is 750 m. Even though the area is east of the Great Dividing Range there is occasional snow briefly on the ground in some winters. Rainfall since 1981 has ranged from 328 mm in 1982 to 1100 mm in 1988 with a 24 year average of 705 mm to 2005. This average has not been reached for the last six years.

This block is fairly well endowed with terrestrial orchids with about 60 taxa at last count. In the immediate vicinity of the *A. tessellata* population *Petalochilus carnea, P. fuscata, Cyanicula caerula, A. phaeoclavia, Glossodia major, Diplodium obtusa* and *Pterostylis pedunculata* are all regularly observed in spring.

Since 1993 this population has been systematically observed and a summary of these observations is presented below. Even though the population is very much lower than when found it appears to be fairly stable. Numbers of plants observed, and with capsules seems directly linked to rainfall. Individual plants were observed in the same small area over the whole period, while other plants appear irregularly. Some capsules were lost to grazing, as were some plants, so when the leaves are first sighted in early winter a defensive barrier of small twiggy branches has been placed around them. This seems to have solved the problem for now, and aids in detection in the following year.

References:

Clements, M.A. 1989, *Catalogue of Australian Orchidaceae. Australian Orchid Research Vol. 1.* Australian Orchid Foundation, Melbourne, Victoria.

Stephenson, Alan W. 2005 *Arachnorchis tessellata* – a long lost local (syn. *Caladenia tessellata*) *The Orchadian* Vol.14, No.11.

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NSW Scientific Committee (2002) *Caladenia tessellata* (a terrestrial orchid) – Endangered species determination – final. DEC (NSW), Sydney.

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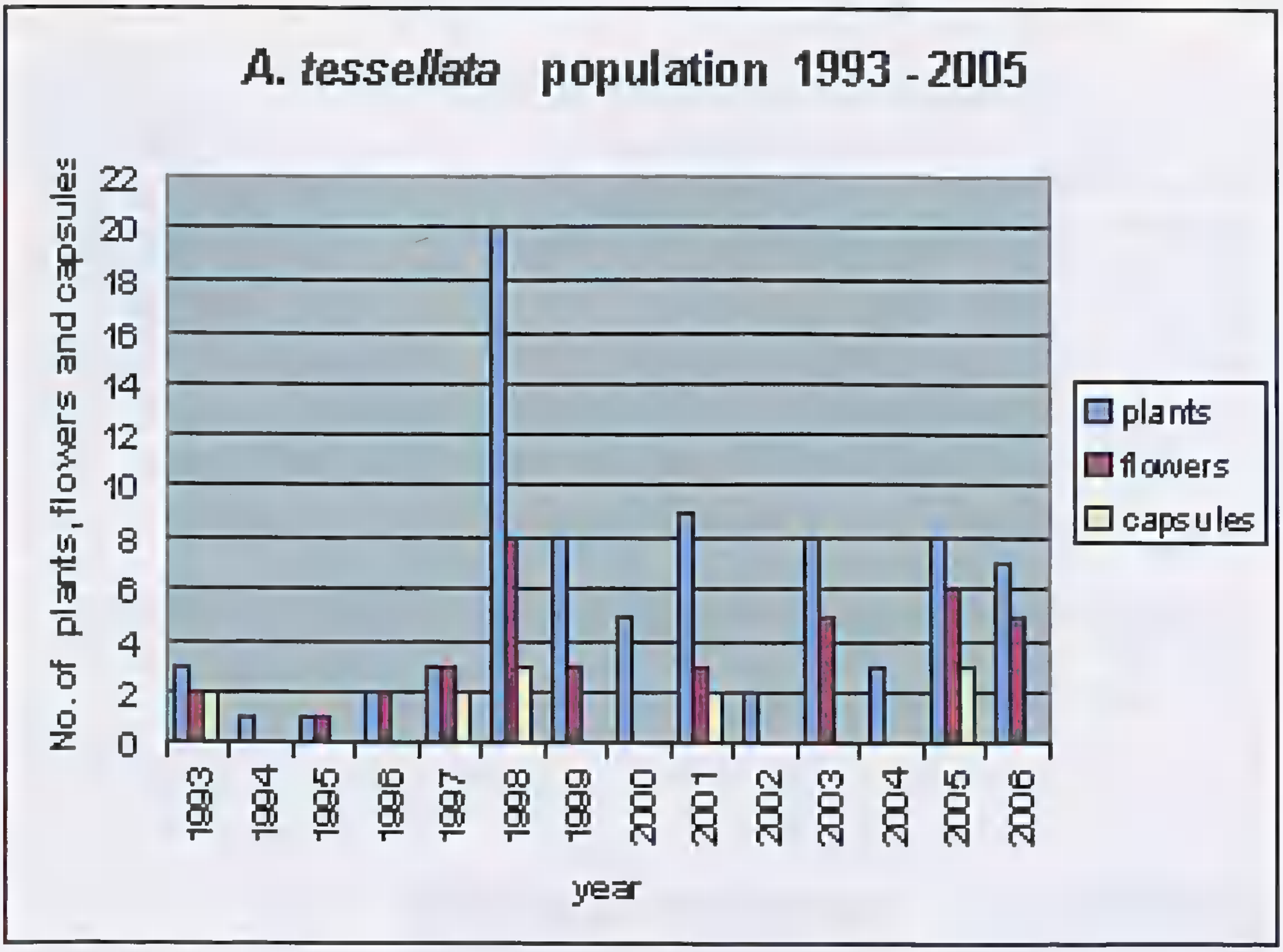
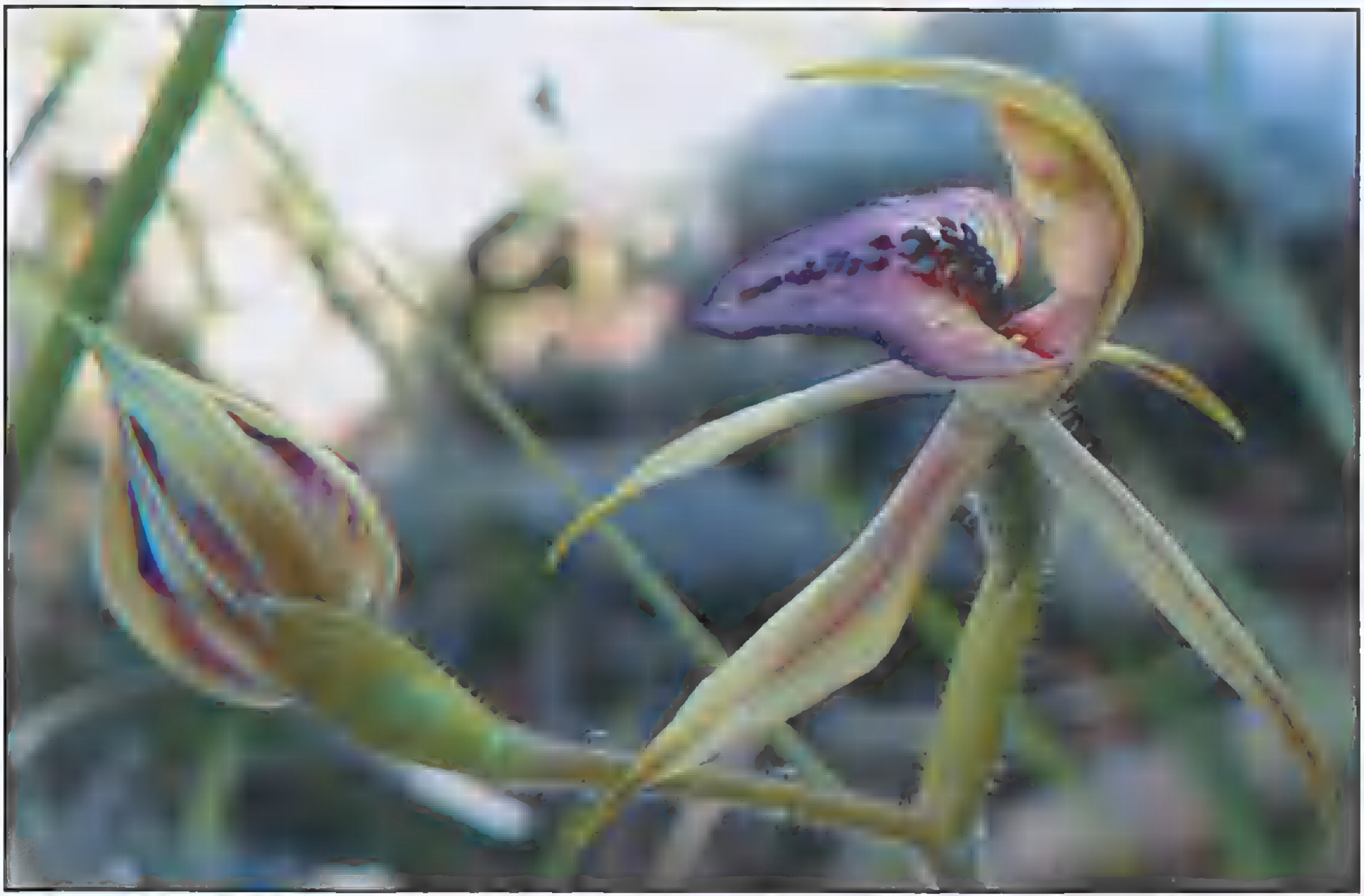


Pooled records of observations by Helen & Paul Hadobas and Bill & Robert Price



Arachnorchis tessellata

Photo Paul Hadobas

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7 February 2007

To all A.N.O.S. members

The management committee of the A.N.O.S. (Qld) Kabi Group Inc is disappointed to have to advise the cancellation of the 6th A.N.O.S. Conference & Show scheduled to be held in Brisbane on 29 August – 2 September 2007.

Progress on the planning and organisation for the event was difficult to obtain and when a number of members of the organising sub-committee recently resigned including the chairperson, the ANOS Kabi Management Committee took the opportunity to review the handover data and reassess the viability of the event. The budget was updated with the latest costs, some apparent inconsistencies and omissions were corrected and a revised revenue stream was projected. From the data provided we were unable to establish any position on advertising, marketing, sponsorship, display layout and requirements or the Guest Speaker program. The A.N.O.S. Kabi Management Committee then undertook a risk assessment of organisational and financial success given the short period remaining to the conference.

The assessment was that the risks were too great and the Management Committee elected not to proceed with the event.

This decision was not arrived at easily and resulted from a lengthy consultation and discussion process. The management committee admits to its shortcomings in not keeping abreast of the conference organisation and accepts the responsibility for the resulting outcome. We apologise to all societies and individuals who may have already undertaken plans or arrangements to partake in the conference and advise that all monies paid will be refunded as quickly as practicable. All donations will be compensated where possible.

Anyone seeking further information should contact me at the above addresses or on (07) 3289 1953.

Again I apologise to anyone who has made arrangements to attend the conference and trust these arrangements can be successfully undone.

Sincerely

Ross Harvey
Chairperson
Sixth A.N.O.S. Conference Sub-committee

Traditional Wabag dancing Photos Ian Nelson

Happy 90th Birthday Ruth

At the April meeting of ANOS Warringah Group members celebrated Ruth Rudkins' 90th Birthday. Mick Korzenowski presented Ruth with flowers on behalf of the members and we all wished her a Happy Birthday and enjoyed birthday cake at the tea break.

Ruth has a long affiliation with ANOS Warringah joining the Group in the mid seventies and then joining ANOS Council and The Ira Butler Committee, where Ruth served many years as Secretary. In 2002 Ruth was given Life Membership to ANOS Inc.

Over the past 30 years Ruth has traveled to many places around the world looking for and at the native orchids and has established a network of friends, keeping in touch with them over the internet. Even in her 70's and 80's Ruth traveled to China, Papua New Guinea, South Africa, North America and attended many World Orchid Conferences.

Now, a retired ANOS Judge, Ruth still attends orchid meetings where she will still particpate in the many activities, passing on her experiences in orchid growing. Always involved in the many different activites that comes with orchid growing, there would be few of us who have not spent time with Ruth doing one thing or another.

On behalf of all your orchid growing friends Ruth, we would like to wish you all the best for the future and hope good health will keep you growing for many years still.

Peter

DIRECTORY OF A.N.O.S. GROUPS
(& Associated Societies)

NEW SOUTH WALES

- **ANOS Central Coast**, P.O. Box 3010, Erina 2250. ☎(02) 4343-1809. Meetings 8pm, 2nd Wed. each month. Temple Kiely Visitors Centre, Department of Agriculture Station, Research Rd., Narara.
- **ANOS Far North Coast**, P.O. Box 949, Ballina 2478. ☎(02) 6686-6303. Meetings 7.30pm, 3rd Fri. each month. C.W.A. Room, River Street, Ballina.
- **ANOS Illawarra**, 2 Wiford St, Corrimal, 2518. ☎(02) 4284-8308. Meetings 7pm, 2nd Tue. each month. Legacy House, 96 Market St., Wollongong.
- **ANOS Macarthur & District**, 43 Strickland Cres, Ashcroft, 2168. ☎(02) 4626-1825. Meetings 8pm, 3rd Thur. each month. Narellan Community Hall, Queen St., Narellan.
- **ANOS Mid-North Coast**, P.O. Box 128, Taree 2430. ☎(02) 6585-9328. Meetings 7.30pm, last Fri. each month. (Held at Taree or Wauchope - telephone Secretary for details).
- **ANOS Newcastle**, P.O. Box 273, Kotara Fair 2289. ☎(02) 4975-3729. Meetings 7.30pm, 4th Thur. each month. John Young Community Hall, Thomas St, Cardiff.
- **ANOS Port Hacking**, P.O. Box 359, Gymea 2227. ☎(02) 9524-9996. Meetings 8pm, 4th Wed. each month except December and January. (telephone Secretary for details regarding the venue).
- **ANOS Sydney**, 22 Rabaul Ave, Whalan. ☎(02) 9624-1768. Meetings 8pm, 3rd Fri. each month. Senior Citizens Hall, Baulkham Hills Community Centre (off Conie Ave.) Baulkham Hills.
- **ANOS Warringah**, P.O. Box 421, Forestville 2087. ☎(02) 9416-4306. Meetings 8pm, 3rd Tue. each month. Community Hall, Starkey St., Forestville.

QUEENSLAND

- **ANOS Kabi**, PO Box 424, Aspley 4034. ☎ (07) 3359-5752 Meetings 7.30pm, 2nd Tue. each month (except Jan.). Bald Hills Memorial Hall, 2126 Gympie Rd., Bald Hills.
- **ANOS Mackay & Dist.**, PO Box 138, Koumala, 4738. ☎(07) 4950-1065. Meetings 7.30pm, 2nd Thursday of each month at the Andergrove Community Centre, Celeber Drive, Andergrove.
- **ANOS Townsville**, 92 Curie St, Wulguru, 4811. ☎(07) 4778-4311. Meetings 8pm, 1st Tue. each month. Townsville Orchid Society Hall, Pioneer Park (opp. Willows Shopping Centre), Thuringowa..
- **Native Orchid Society of Toowoomba**, P.O. Box 2141,Toowoomba 4350. Meetings 7.30pm, 1st Fri. each month. Luthern Church Hall, Cnr. West and Alderly Sts, Toowoomba.
- **ANOS Beenleigh Group.** C/o 16 Castile Cres. Holmview 4207. ☎(07) 3805-6865. Meetings 7.30pm, 1st Thur. each month. Showground Hall, James St Beenleigh.
- **ANOS Gold Coast Group Inc.** C/o Clam St, Runaway Bay, 4221. Meetings last Sun. each month. Southport Community Centre, Lawson St, Southport.

VICTORIA

- **ANOS Geelong**, Unit2, 2 Elizabeth St., Belmont 3216. ☎(03) 5243-4286. Meetings 8pm, 2nd Wed. each month. Uniting Church Hall, Moorabool St., South Geelong.
- **ANOS Victoria**, P.O. Box 354, Glen Waverley 3150. ☎(03) 9874-5343. Meetings 8pm, 1st Fri. each month. Demonstration Hall, Burnley Horticultural College, Swan St., Burnley.
- **ANOS Melbourne Suburbs Group**, PO Box 239 Mt Evelyn Vic. 3796. ☎(03) 59622758. Meetings held on the 4th Wednesday of the month at 7.30pm at Montrose Primary School, Leith Rd., Montrose 3765 (Melways 52 D7)

SOUTH AUSTRALIA

- **Native Orchid Society of South Australia**, P.O. Box 565, Unley 5061. ☎(08) 8356-7356. Meetings 8pm, 4th Tue. each month. St. Matthews Hall, 67 Bridge St., Kensington.

WESTERN AUSTRALIA

- **ANOS Western Australia**, 10 Lothian St, Floreat WA 6014. ☎(08) 9387-4210. Meetings 8pm, 2nd Mon. each month. Wilson Community Hall, Braibrise Rd., Wilson.

NEW ZEALAND

- **ANOS New Zealand**, Margaret Phair, 21 Paparoa Rd, Howick, Auckland, New Zealand.
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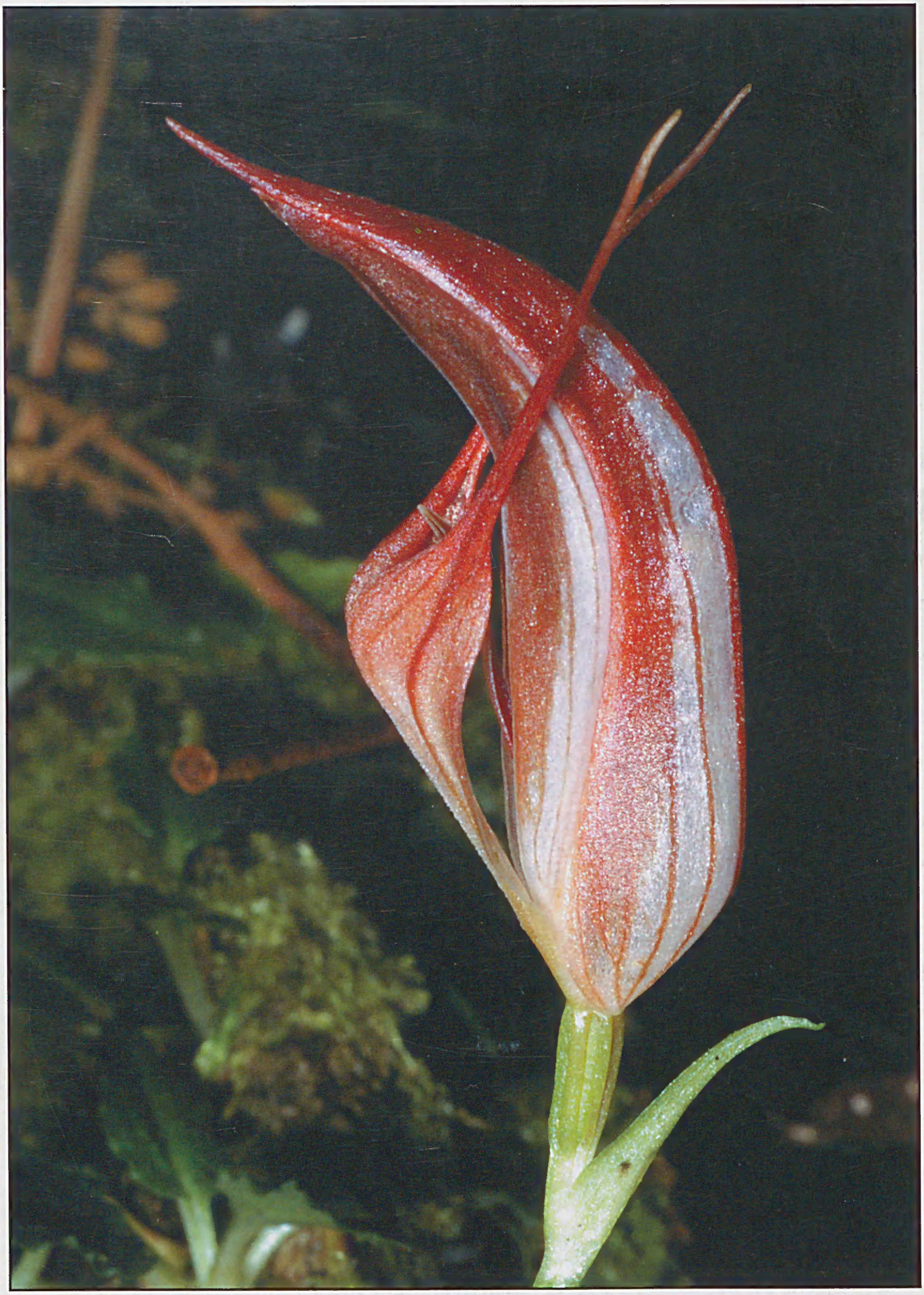

Pterostylis species from Mt Wilhelm, which is the largest *Pterostylis* species I have ever seen, its flowers were similar to *P. baptistii* but were striated in dark ochre-red. (P. Presland)
Photo Gary Yong Gee